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Title: Waters of the U.S. Jurisdictional Determination Report - Caliente Rail Corridor, GIS Data, Map Documents, and Pictures

Supplier Document #: N/A

· Supplier Rev.: 03

Supplier Date: 11/13/06

NVM Nevada Transportation Manager Gene Allen NE Nevada Engineering Kathy Mrotek

Note: Document resubmitted to remove privileged markings, no technical changes were made.

1. Supplier/Subcontractor Name:

Supplier Document Distribution

QA: <u>N/A</u> Page 1 of 1

Complete only applicable items.

Purchase Order/Subcontract No. and Title:

PBS&J			07/Exhibit D, 3. Determination I				he U.S.
2. BSC Submittal No.:		Revision:	Title: Waters of the	U.S. Ju	risdictional De	etermination 1	Report - Caliente
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^{*} Use these abbreviations on the Supplier Document Status stamp to indicate reviewers.

Transportation Data Pedigree Form

Complete only applicable items.

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Page 1 of 5

Subcontractor:	Item Number/Title/Revision:	Submittal Date:	SRCT No.:
PBS&J	Waters of the U.S. Jurisdictional Determination Report - GIS Data, Map Documents and Pictures Rev 03	Nov. 16, 2006	T06-00104
Costion I Cubmittel I	nformation (includes above information)	6-1-07	

Section I. Submittal Information (includes above information)

Submittal Description and Revision Summary for Entire Submittal:

This delivery includes a report. It is to provide GIS products and data of water features and wetlands sites used in the preparation of the Waters of the U.S. Jurisdictional Determination Report for Yucca Mountain Project Caliente Rail Corridor.

It includes a geodatabase, three shapefiles, 15 mxd files used for pictorial representation of Waters of the U.S. which crosses the Caliente Rail Corridor, Adjacent Wetlands and Potential Wetlands, and Isolated Wetlands, 28 pdfs of the maps (mxd files), pictures taken in the field during data collection, and The Waters of the U.S. Jurisdictional Determination Report.

*Note: Attachment1 (PBSJ_WOUSDataDefinitions) provides the detailed data definition for the "WOUS_CRC_Final" geodatabase.

- 1. The geodatabase "CRC" contains (47) feature classes. The feature classes were used for the purpose of creating pictorial figures embedded in the Waters of the U.S Jurisdictional Determination Report. The feature classes in the geodatabase provided were renamed by including a prefix based upon the corresponding chapter title or associated chapter title provided by Bechtel GIS Baseline Data Dictionary. And those feature classes changed or modified were given a new filename and described below.
 - base_mapindex24K This polygon feature was created as a map index for the creation of figures.
 - Base_mapindexWetl This polygon feature was created as a map index for the creation of figures.
 - base_nafrdoeu2 Received from BSC
 - base ntsu2 Received from BSC
 - base_nvquadu Received from BSC
 - base nvstacou Received from BSC
 - base_trsnevu Received from BSC
 - base_wstacou_modified This polygon feature was modified by merging together associated counties to its state. Counties merged for the states of Nevada, California and Utah only.
 - Caliente_100ftBuffer This polygon feature represents a 100 foot buffer of each side of the alignment centerline.
 - CalienteRailCorridorAnno
 - calu1205eis This polyline feature represents the Caliente Rail Corridor.
 - calu1205eis660ftBuff This polygon feature represents a 660 foot buffer of each side of the alignment centerline.
 - calu1205eis660ft_100ft_Buff This polygon feature represents a 660 foot buffer of each side of the alignment centerline except in the Caliente segment where resurveyed is 100 foot buffer.
 - CitiesTowns This point feature represents cities and towns in the United States.
 - corr_basins This polygon feature was obtained from PB, see hydro_huc250k_intersect.
 - econ smltwnu Received from BSC
 - econ wcityu Received from BSC
 - envr_nlndcvu Received from BSC
 - geogannou Received from BSC
 - geogannouAnno Received from BSC
 - geol_nvsoilu Received from BSC
 - geol_soilu Received from BSC
 - hydro_calmajstrmu Received from BSC
 - hydro_huc250k This polygon feature represents the Hydrologic Unit coverage for the Lower Colorado, Great Basin, and California Regions obtained from USGS, with no attribute tables joined.
 - hydro_huc250k_intersect The hydro_huc250K Subbasins intersecting with the Caliente Rail Corridor.
 - hydro_huc250k_mod Delineation of hydrologic contributory area based upon USGS contour information, created by Scott Luck of PR
 - hydro_huc250k_mod2 Modification of hydro_huc250k_mod by Scott Lueck.
 - hydro_nvspringu Received from BSC
 - hydro_strmnevu Received from BSC
 - hydro_strmu Received from BSC
 - hydro_subbasinu Received from BSC
 - hydro_USGSStreamCrossings This point feature created where USGS DLG data intersects with an outdated Caliente Rail Corridor alignment centerline.

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QA: N/A

Complete only applicable items.

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PBS&J	Waters of the U.S. Jurisdictional Determination Report - GIS Data, Map Documents and Pictures Rev 03	Nov. 16, 2006	T06-00104

- hydro_WAStreamSub1- This polyline feature is a preliminary stream alignment derived from USGS 30 meter DEMs.
- juris_allomentsu Received from BSC
- juris_hmau Received from BSC
- juris_lndownru4 Received from BSC
- juris_nvlndownru4 Received from BSC
- MajorRd_clip- This polyline feature represents major roads clipped to the extent of the project area, obtained from ESRI, and contains full metadata.
- Photo_locations_white river locations of the photographs taken for the White River Valley (Figure_Appendix D)
- topo200u Received from BSC
- tran_nvmajoru Received from BSC
- tran_railwstu Received from BSC
- tran_roadnevu2 Received from BSC
- tran_usrailu Received from BSC
- WetlandsArrows This polyline feature represents the direction of which the wetlands extend for the Caliente Rail Corridor segment.
- YuccaMt This point feature represents the approximate location of Yucca Mountain.
- 2. 15 maps (mxd) and 28 pdfs of maps used for the Waters of the U.S. Jurisdictional Determination Report.
 - Figure_1 Overview of the Caliente Rail Corridor Alignment Project Location
 - Figure_2 Overview of the Hydrographic Regions and Areas in relation to the alignment.
 - Figure_3A Waters of the U.S. crossing Caliente and Eccles segments, and the Hydrographic Area of Colorado River Basin.
 - Figure_3B Waters of the U.S. crossing the Eccles segment, and the Hydrographic Area of Colorado River Basin.
 - Figure_3C Waters of the U.S. crossing the CS1 Bennett Pass segment, Potential Waters of the U.S., and the Hydrographic Areas of Central Region and Colorado River Basin.
 - Figure_3D Waters of the U.S. crossing the OV1, OV3 and BW1 segments, the Hydrographic Areas of Central Region and Death Valley Basin, and the Nevada Test and Training Range.
 - Figure_3E Waters of the U.S. crossing the CS6 Busted Butte segment, the Hydrographic Areas of Death Valley Basin, Nevada Test Site, and Nevada Test and Training Range.
 - Figure_4A Overall Wetlands for the Caliente/Eccles Segments
 - Figure_4B Wetlands and Wetlands Data Points for the Eccles segment (Dutch Flats).
 - Figure_4C Southern portion of Wetlands and Potential Wetlands and Wetlands Data Points for the Caliente segment.
 - Figure_4D_4Q -Wetlands and Wetlands Data Points for the Caliente segment.
 - Figure_4R Wetlands and Wetlands Data Points for the Caliente/Eccles segments.
 - Figure_4S -Wetlands and Wetlands Data Points for the CS1 Pahroc Summit segment.
 - Figure_4T –Wetlands and Wetlands Data Point for the OV3 segment.
 - Figure_AppendixD White River Map
- 3. In the \pictures\Phase3Deliverable\Caliente_9-13-06 folder: There were a total of 273 jpg files. Pictures were taken in the field during the 3rd phase of data collection. Each original picture then includes a thumbnail with filename "small" and a watermarked picture stamped with Latitudes/Longitudes, date and time picture was taken has filename "tag". JPG files have a prefix "PBSJ8" which were taken with a Ricoh GPS camera and contain Latitudes/Longitudes for.
- 4. In the \pictures\Phase3Deliverable\Caliente_9-13-06\RRM Photos 2006_June\ subfolder: There were 77 jpg files taken in the field during the 3rd phase of data collection that have a prefix "PBSJ7" which was taken with a digital camera and do not have GPS coordinates.
- 5. In pictures\Phase2Deliverable\Caliente_4-03-06 folder: There were 718 jpg files total. Pictures were taken in the field during the 2nd phase of data collection. Each original picture then includes a thumbnail with filename "small" and a watermarked picture stamped with Latitudes/Longitudes, date and time picture was taken has filename "tag". Pictures with prefix "PBSJ3" and "PBSJ4" were taken with a Ricoh GPS camera and contain Latitudes/Longitudes.

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QA: N/A

Complete only applicable items.

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Subcontractor:	Item Number/Title/Revision:	Submittal Date:	SRCT No.:
PBS&J	Waters of the U.S. Jurisdictional Determination Report - GIS	Nov. 16, 2006	T06-00104
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- 6. In pictures\Phase2Deliverable\Caliente_5-26-05 folder: There were a total of 528 jpg files. Pictures were taken in the field during the 2nd phase of data collection. Each original picture then includes a thumbnail with filename "small" and a watermarked picture stamped with Latitudes/Longitudes, date and time picture was taken has filename "tag". Pictures with prefix 'PBSJ6' which were taken with a Ricoh GPS camera and contain Latitudes/Longitudes.
- 7. In pictures\Phase2Deliverable\Caliente_4-03-06\PBSJ5_Photo Log.xls: There is a list of 87 photos taken with a digital camera during the 2nd phase of data collection that have a prefix "PBSJ5". Prefix "PBSJ5" were taken with a digital camera and do not have GPS coordinates. This photo log includes notes captured by an Environmental staff briefly describing direction orientation, plant specie(s) indicators, and other special notes about each wash channel or wetlands site of which the photo was taken at the Caliente and Eccles segments. Each photo is associated to either a "WS-PT" = SyncWashEnvr (Wash data points) or "WT-PT" = SyncWetlPnt (Wetlands data point) and its Site number (field name 'SITE2' in attribute table), or SyncCtchAll (Catch All points).
- 8. The Waters of the U.S. Jurisdictional Determination Report is a jurisdictional determination of non-wetland Waters of the United States and adjacent wetlands was conducted along the proposed and alternative rail segments within the Caliente Rail Corridor. The jurisdictional determination was conducted on public and accessible private lands pursuant to Section 404 of the Clean Water Act (CWA) and in compliance with U.S. Army Corps of Engineers (USACE) guidance.

Special Instructions:

Section II. Data I	File Info	rmation (A	Add lines below if needed for additional files. Indicate "Last item" or "E	End of list" on last line used.)
Filename	Rev.	File Size	Description (File description and revision summary for file)	Application and Version/ Add-in or Extension and Version
CRC.mdb	02	1,102,5 64 KB	CRC is the name of the ESRI geodatabase being delivered. Within this geodatabase are (47) feature class files.	ArcGIS 9.1
(Folder) pictures\Phase2De liverable\Caliente _5-26-05	01	88,576 KB	For the Caliente/Eccles segments in the subfolder entitled Caliente_5-26-05 with 528 jpg files	Corel PHOTO-PAINT 8.0 Image
(Folder) pictures\Phase2De liverable\Caliente _4-03-06	01	59,494 KB	For the Caliente/Eccles segments associates with PBSJ5_Photo Log.xls in the subfolder entitled Caliente_4-03-06 with 805 jpg files	Corel PHOTO-PAINT 8.0 Image
(Folder) pictures\Phase3De liverable\Caliente _9-13-06*.*	02	52,224 KB	For the Caliente segment there are 273 jpg files. In addition, this folder contains a sub-folder entitled RRM Photos 2006_June with 77 jpg files.	Corel PHOTO-PAINT 8.0 Image
Figure_1.mxd	01	456 KB	Caliente Rail Corridor Project Location	ArcGIS 9.1
Figure_2.mxd	01	474 KB	Hydrographic Regions and Areas	ArcGIS 9.1
Figure_3A.mxd	02	607 KB	Caliente Rail Corridor Waters of the U.S. Caliente/Eccles Segments	ArcGIS 9.1
Figure_3B.mxd	02	650 KB	Caliente Rail Corridor Waters of the U.S. Eccles Segment (Dutch Flat area)	ArcGIS 9.1
Figure_3C.mxd	02	567 KB	Caliente Rail Corridor Waters of the U.S. CS1 Bennett Pass Segment	ArcGIS 9.1
Figure_3D.mxd	03	553 KB	Caliente Rail Corridor Waters of the U.S. OV1/OV3/BW1 Segments	ArcGIS 9.1
Figure_3E.mxd	03	410 KB	Caliente Rail Corridor Waters of the U.S. CS6 Busted Butte Segment	ArcGIS 9.1
Figure_4A.mxd	02	784 KB	Caliente Rail Corridor Wetlands Caliente/Eccles Segments	ArcGIS 9.1 .
Figure_4B.mxd	02	711 KB	Caliente Rail Corridor Wetlands Eccles Segment	ArcGIS 9.1

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QA: N/A

Complete only applicable items.

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Subcontractor:		Item	Number/Title/Revision:	Submittal Date: SRCT No.:
PBS&J		Wa	ters of the U.S. Jurisdictional Determination Report - GIS a, Map Documents and Pictures Rev 03	Nov. 16, 2006 13, 65 6-1-67 T06-00104
Figure_4C.mxd	02	598 KB	Caliente Rail Corridor Wetlands Caliente Segment	ArcGIS 9.1
Figure_4D_4Q.m xd	02	795 KB	Caliente Rail Corridor Wetlands Caliente Segment	ArcGIS 9.1
Figure_4R.mxd	02	642 KB	Caliente Rail Corridor Wetlands Caliente/Eccles Segments	ArcGIS 9.1
Figure_4S.mxd	02	589 KB	Caliente Rail Corridor Isolated Wetlands CS1-Pahroc Summit Segment	ArcGIS 9.1
Figure_4T.mxd	02	580 KB	Caliente Rail Corridor Isolated Wetlands OV-3 Segment	ArcGIS 9.1
Figure_Appendix D.mxd	02	361 KB	White River Valley Map	ArcGIS 9.1
Figure_1.pdf	01	454 KB	Caliente Rail Corridor Project Location	Adobe Acrobat 7.0 Professional
Figure_2.pdf	01	843 KB	Hydrographic Regions and Areas	Adobe Acrobat 7.0 Professional
Figure_3A.pdf	02	1,268 KB	Caliente Rail Corridor Waters of the U.S. Caliente/Eccles Segments	Adobe Acrobat 7.0 Professional
Figure_3B.pdf	02	4,016 KB	Caliente Rail Corridor Waters of the U.S. Eccles Segment (Dutch Flat area)	Adobe Acrobat 7.0 Professional
Figure_3C.pdf	02	3,971 KB	Caliente Rail Corridor Waters of the U.S. CS1 Bennett Pass Segment	Adobe Acrobat 7.0 Professional
Figure_3D.pdf	03	2,380 KB	Caliente Rail Corridor Waters of the U.S. OV1 Segment	Adobe Acrobat 7.0 Professional
Figure_3E.pdf	03	3,480 KB	Caliente Rail Corridor Waters of the U.S. CS6 Busted Butte Segment	Adobe Acrobat 7.0 Professional
Figure_4A.pdf	02	1,826 KB	Caliente Rail Corridor Wetlands Caliente/Eccles Segments	Adobe Acrobat 7.0 Professional
Figure_4B.pdf	02	1,126 KB	Caliente Rail Corridor Wetlands Eccles Segment	Adobe Acrobat 7.0 Professional
Figure_4C.pdf	02	1,952 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4D.pdf	02	1,809 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4E.pdf	02	885 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4F.pdf	02	871 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4G.pdf	02	883 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4H.pdf	02	828 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4I.pdf	02	816 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4J.pdf	02	980 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4K.pdf	02	802 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4L.pdf	02	735 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4M.pdf	02	960 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4N.pdf	02	780 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4O.pdf	02	908 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4P.pdf	02	1,286 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4Q.pdf	02	833 KB	Caliente Rail Corridor Wetlands Caliente Segment	Adobe Acrobat 7.0 Professional
Figure_4R.pdf	02	1,278 KB	Caliente Rail Corridor Wetlands Caliente/Eccles Segments	Adobe Acrobat 7.0 Professional
Figure_4S.pdf	02	554 KB	Caliente Rail Corridor Wetlands CS1-Pahroc Summit Segment	Adobe Acrobat 7.0 Professional

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Complete only applicable items.

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Subcontractor:		1	em Number/Title/Revision:	Submittal Date: SRCT No.:				
PBS&J			Vaters of the U.S. Jurisdictional Determination Report - GIS Data, Map Documents and Pictures Rev 03	Nov. 16, 2006 13, 656-1-17 T06-00104				
Figure_4T.pdf	02	1,675 KB	Caliente Rail Corridor Wetlands OV-3 Segment	Adobe Acrobat 7.0 Professional				
Figure_Appendix D.pdf	02	3,601 KB	White River Valley Map	Adobe Acrobat 7.0 Professional				
PBSJ5_PhotoLog. xls	01	32 KB	Photo Log – RM Photos Caliente/Eccles Segments Jan- 06	Microsoft Office Excel 2003				
YMP WOUS Report November 13, 2006_Final_SRCT -06-00104.pdf	03	153,813 KB	for Yucca Mountain Project – Caliente Rail Corridor	Adobe Acrobat 7.0				
PBSJ_WOUSData Definitions.doc	03	107 KE	Features	Microsoft Word Document				
	· ·		Last Item					
Section III. Metac	data	•						
			Projection: NAD 1983 UTM Zone 11N					
☐ GIS Metad All GIS data is pre ArcGIS9.1 UTM, N	ferred in		Datum: D_North_American_1983, Semimajor Axis: 6378 6356752.3141403561 Inverse Flattening: 298.257222101					
Zone11, Feet.		-,	Zone: 11N					
			Units: Feet					
☐ CAD Metadat			Level descriptions:					
CAD drawings are Bentley MicroSta			Scale:					
InRoads and shou	uld adhe	re to	Units of Measurement:					
established CAD s	standar	ds.	Horizontal and Vertical Datum:					
Section IV. Data	Screeni	ng (Coi	npleted by BSC personnel)					
Suitable for Review? Yes* No	Screene Cathy S		signature: At Statte	Date: 11/17/06				
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Comments: (Justification	on for reje	cting subn	nittal is required; other comments are optional.)					
Section V. STR	Disposit	ion of S	ubmittal					
Process for Review? Yes No**	** If "No"	', date retu	rned: Comments:					
STR Name:	= A	ررد	Signature: 60 ddon	Date:/ 4/4/87				

Data Definitions for CRC Waters of the U.S. GIS Features

Feature Class: SyncCtchAll

Description: This feature class contains a point representation of other miscellaneous points of interest for the Caliente Rail Corridor project.

Purpose: This feature class is used for identifying significant access routes or other points of interest while in the field.

Revision History:

Rev2 – Revision 2 includes additional miscellaneous points of interest. Other fields not mentioned were for the use of the field data collection application. The data was transformed into the NAD 83 UTM Zone 11N Feet coordinate system.

Data Type	Description of field
String	Unique identifier for SyncCtchAll generated by the software. This identifier will act as a primary key.
String	Comments captured as the engineers or environmental scientists located these catch all points. Special notes about each catch all point are stored as comments.
String	Brief description of miscellaneous points of interests.
Number	The easting or x coordinate of the center of this catch all point. Coordinates are in NAD_1983_UTM_Zone_11N feet.
Number	The northing or y coordinate of the center of this catch all point. Coordinates are in NAD_1983_UTM_Zone_11N feet.
String	Types of miscellaneous points of interests.
String	Photo identification name
String	Direction photo were taken.
	String String String Number Number String String

Field Name	Data Type	Description of field
Shape	Point	

Feature Class: SyncWashEnvr

Description: This point feature class represents investigated wash channels. Each record contains a width and depth attribution of the wash.

Purpose: To identify Waters of the U.S. and Non-Waters of the U.S.

Revision History:

Rev3 – Revision 3, includes additional wash sites. Other fields not mentioned were for the use field data collection application, and the data was transformed into the NAD 83 UTM ZN 11 Feet coordinate system.

Field Name	Data Type	Description of field
OBJECTID	Number	Unique identifier for SyncWashEnvr generated by the software. This identifier will act as a primary key.
DOMSPEC1 thru DOMSPEC6	String	Indicates the dominant plant specie(s) found at the wash site.
REMARKS1	String	Remarks captured as the environmental scientists located these wash points. Special notes about each wash site may also be stored as remarks.
WATERS_US	String	"YES" or "NO" if is jurisdictional Waters of the U.S.
BED_WIDTH	Number	A numeric value indicating the width of the wash in inches.
OHWM_DPTH	Number	A numeric value indicating the ordinary high water mark (depth) of the wash in inches.
X_coord	Number	The easting or x coordinate of the center of this wash point. Coordinates are in NAD_1983_UTM_Zone_11N feet.

Field Name	Data Type	Description of field
Y_coord	Number	The northing or y coordinate of the center of this wash point. Coordinates are in NAD_1983_UTM_Zone_11N feet.
Shape	Point	

Feature Class: SyncWetlPnt

Description: This point feature class represents wetland data points.

Purpose: To identify and delineate wetlands sites.

Revision History:

Rev2 – Revision 2, includes additional wetlands sites. Other fields not mentioned were for the use of the field data collection application. And the data was transformed data into the NAD 83 UTM ZN 11 Feet coordinate system.

Field Data Name Type OBJECTID Number		Description of field		
		Unique identifier for SyncWetlPnt generated by the software. This identifier will act as a primary key.		
SITE	String	Unique Wetlands Data Point identifier named by a PBS&J employee used for the figures & report.		
DOMSPEC1 thru DOMSPEC6	String	The dominant plant specie(s) indicators found at the wetlands site.		
REMARKS1	String	Remarks captured as the environmental scientists located these wash points. Special notes about each wetlands site may also be stored as remarks.		
X_coord	Number	The easting or x coordinate of the center of this wetlands point. Coordinates are in NAD_1983_UTM_Zone_11N feet.		
Y_coord	Number	The northing or y coordinate of the center of this wetlands point. Coordinates are in NAD_1983_UTM_Zone_11N feet.		

PHOTOID_1 thru	String	Photo identification name
PHOTOID_4		
PHOTO_DIR1 thru PHOTO_DIR4	String	Direction photo were taken.
Shape	Point	

Feature Class: SyncWetlPoly

Description: This polygon site represents determined wetlands and potential wetlands along the rail alignment.

Purpose: To delineate the boundaries of each wetlands.

Revision History:

Rev2 – Revision 2, additional wetlands sites. Other fields not mentioned were for the use of the field data collection application, and transformed data into the NAD 83 UTM ZN 11 Feet coordinate system.

Data Type	Description of field
Number	Unique identifier for SyncWetlPoly generated by the software. This identifier will act as a primary key.
String	Comments captured as the environmental scientists located these wetlands polygons. Special notes about each wetlands site may also be stored as remarks.
String	"Jurisdictional" or "Non-Jurisdictional" indicates wetlands classification.
String	Name identifier of each wetlands or potential wetlands. "CC" is Caliente Corridor, "WT" is wetlands and "PWT" is potential wetlands.
	Number String String

Field Name	Data Type	Description of field	
WET_TYPE	String	"Adjacent" or "Isolated" as type of Wetlands.	
Shape	Polygon		

Feature Class: SyncWshLnEnv

Description: This linear feature represents jurisdictional and non jurisdictional Waters of the U.S. along the rail alignment. Each record contains a width and depth attribution of the wash.

Purpose: To delineate and compliment the Waters of the U.S. data points collected in the field.

Revision History:

Rev3 – Revision 3, additional wash sites. Other fields not mentioned were for the use of the field data collection application, and transformed data into the NAD 83 UTM ZN 11 Feet coordinate system.

Field Name	Data Type	Description of field
		Unique identifier for SyncWshLnEnv generated by the software. This identifier will act as a primary key.
COMMENTS	String	Comments captured as the environmental scientists located these wetlands polygons. Special notes about each wetlands site may also be stored as remarks.
DOMSPEC1 thru DOMSPEC6	String	The dominant plant specie(s) indicator found at each wash site.
WATERS_US	String	"YES" or "NO" if is jurisdictional Waters of the U.S. "PW" if Potential Waters of the U.S.
BED_WIDTH	Number	A numeric value indicating the width of the wash in inches.
OHWM_DPTH	Number	A numeric value indicating the ordinary high water mark (depth) of the wash in inches.

Field Name	Data Type	Description of field
WOUS_ID	String	Name given to identify each wash.
WASH	Number	"0" not displayed and "1" is Waters of the U.S displayed on figures.
SEGMENT_1	String	Name of the Caliente Rail Corridor segment crossing a wash channel.
Shape	Polyline	



Waters of the U.S. Jurisdictional Determination Report for Yucca Mountain Project – Caliente Rail Corridor

Task 1.1 Information on Wetlands and Floodplains REV. 03 November 13, 2006 06-00104

Prepared by:





Prepared for:



Caliente Rail Corridor Hydrologic Analyses

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Waters of the U.S. Jurisdictional Determination Report for Yucca Mountain Project Caliente Rail Corridor

Prepared for:

Parsons Brinckerhoff 3930 Howard Hughes Parkway, Suite 300 Las Vegas, Nevada 89109

and

Bechtel SAIC Company, LLC 1180 North Town Center Drive Las Vegas, Nevada 89144

Prepared by:

PBS&J 2270 Corporate Circle, Suite 100 Henderson, Nevada 89074

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ACRONYMS/ABBREVIATIONS

CCE Wetland sample point on the east side of the Caliente Corridor CCW Wetland sample point on the west side of the Caliente Corridor

CFR Code of Federal Regulations

CRC Caliente Rail Corridor

CWA Clean Water Act

DOE Department of Energy

DOQQ Digital Orthophoto Quarter-Quadrangle

EIS Environmental Impact Statement

FAC Facultative

FACU Facultative Upland FACW Facultative Wetland FR Federal Register

GIS Geographic Information System
GPS Global Positioning System

NRCS Natural Resources Conservation Service (formerly SCS)

NWI National Wetlands Inventory

OBL Obligate

OHWM Ordinary high water mark

PWT Potential Wetland

SCS Soil Conservation Service

UNNWL Unnamed Wetland UPRR Union Pacific Railroad

USACE
USDA
U.S. Army Corps of Engineers
USDA
U.S. Department of Agriculture
USFWS
U.S. Fish and Wildlife Service

USGS U.S. Geological Service

WOUS Waters of the United States

WT Wetland

1.0 INTRODUCTION

The U.S. Department of Energy (DOE), Office of Civilian Radioactive Waste Management is analyzing Yucca Mountain as a site to construct a long-term repository for the Nation's spent nuclear fuel and high-level radioactive waste. The DOE is also analyzing construction of a new branch rail line in Nevada to transport waste to the proposed Yucca Mountain Waste Repository site. Five potential rail transport routes were evaluated and the Caliente Rail Corridor (CRC) was selected as the preferred corridor.

A jurisdictional determination of waters of the United States (WOUS), including adjacent wetlands, was conducted along the proposed and alternative rail segments within the CRC. The jurisdictional determination was conducted on public and accessible private lands pursuant to Section 404 of the Clean Water Act (CWA) and Executive Order 11990 – Protection of Wetlands, and in compliance with U.S. Army Corps of Engineers (USACE) guidance. This jurisdictional determination report will be used to support the Environmental Impact Statement (EIS) analyzing alternative rail alignments within the corridor and for the CWA Section 404 permit application.

Delineations of isolated wetlands located within the CRC were completed and this report will also be used to support a wetlands assessment in compliance with 10 Code of Federal Regulations (CFR) 1022, Compliance with Floodplain-Wetlands Environmental Review. Please note that all figures can be found in Appendix A.

2.0 PROJECT DESCRIPTION

The CRC originates at a junction on the Union Pacific Railroad (UPRR) mainline near Caliente, Nevada and extends west across Lincoln, Nye, and Esmeralda counties to the Yucca Mountain site (Figure 1). The total length of the project area is 504.8 miles, which includes all of the different alignments within the CRC. The project would consist of the construction of a single track rail line, sidings, service road, staging yard, and operational interface area with the UPRR mainline. The corridor evaluated for WOUS and wetlands is generally 0.25 mile wide and includes common segments and segments with alternative alignments. Due to the relatively large extent of wetlands in the southern portion of the Caliente Segment, the evaluation corridor was restricted to a 200 foot width in this area. This was done because impacts to wetlands will be avoided and minimized to the maximum extent practicable and if this alignment is selected, the proposed rail line would be on or near the existing rail bed, which is generally an upland area. The referenced area occurs in Lincoln County, NV near the southern end of the proposed Caliente Segment and extends from approximately 0.5 mile north of Caliente where U.S. 93 crosses Meadow Valley Wash approximately 4.52 miles northward to Beaver Dam Road.

The corridor is separated into segments and assigned an alpha-numeric identification. The segment identifier is based on geographic location of rail alignment options and includes the following:

Segment Identifier	<u>Location</u>		
CS	Common Segment		
BW	Beatty Wash		
OV	Oasis Valley		
BC	Bonnie Claire		
GF	Goldfield		
SR	South Reveille		
GV 👌	Garden Valley		
WR 🥌	White River		
CAL	Caliente		
ECC	Eccles		

3.0 SITE DESCRIPTION

General descriptions of the soils, hydrology, and vegetation communities found within the CRC are provided in this section. The project area lies within the Great Basin and Mojave Desert. The Great Basin is a triangular shaped area between the Rocky Mountains (to the east) and the Sierra Nevada Mountains (to the west). The Great Basin includes the Great Salt Lake in Utah, and portions of the Mojave Desert, and Death Valley in California. The Great Basin is also known as the "basin and range" area since it consists primarily of a series of alternating basins (valleys with interior drainage) and mountain ranges. Hydrographically isolated basins or valleys are separated by north-south trending mountains. Parts of the Mojave Desert consist of external drainage and are considered the transition area from the hotter Sonoran Desert to the south and the higher Great Basin to the north.

3.1 Soils

General descriptions of soil series are available from the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service (SCS)), U.S. Department of Agriculture (USDA). The predominant soil series found throughout the CRC are briefly described below.

Meadow Valley Wash and Clover Creek consist mainly of the Geer and Pahranagat soil series. The Geer soil series is a very deep, moderately well drained soil that formed in mixed alluvium, mainly ignimbrite, basalt, limestone, and lacustrine sediments (USDA 1976). These soils are on floodplains and alluvial fans. Slope gradients generally range from 0 to 2 percent.

The St. Thomas series, consisting primarily of shallow, well-drained soils that formed in colluvium and residuum from limestone and dolomite, are the primary soil types found in the mountains. These soils generally occur on hills and mountains with 8 to 75 percent slopes. The Crosgrain and Arizo soil series are the primary soil types on the fan piedmonts. The Crosgrain series are shallow, well-drained soils that formed in mixed alluvium on ballenas (older fan piedmonts), with slopes ranging from 4 to 30 percent. The Arizo series are very deep, excessively drained soils that formed in mixed alluvium on recent alluvial fans, with slopes ranging from 0 to 15 percent (USDA 1993).

Basin floors in the CRC generally consist of the Mazuma and Ragtown soil series. The Mazuma series are very deep, well-drained soils that formed in alluvium and lacustrine materials from mixed rock sources. Mazuma soils occur on fan skirts and alluvial flats, with slopes ranging from 0 to 15 percent. The Ragtown series are very deep, moderately well-drained soils that formed in moderately fine and fine-textured lacustrine materials from mixed rock sources. This series occurs on lake plain terraces with slopes ranging from 0 to 4 percent (USDA 1993).

Hydric soil types can indicate the presence of wetlands. Soils classified as hydric are saturated, flooded, or ponded long enough to develop anaerobic conditions that favor growth of hydrophytic vegetation. The majority of the soils mapped within the CRC are not classified as hydric by the NRCS (USDA 1995).

3.2 Hydrology

Hydrology characteristics are defined by watershed. A watershed is a geographic area drained by a single major stream, river, or lake. It is bounded by a divide that separates it from adjacent watersheds. A watershed is also referred to as a hydrographic region or drainage basin.

Nevada has been divided into 14 hydrographic regions or basins (Division of Water Resources 1971). Shown in Figure 2, the CRC crosses three of these regions – Colorado River Basin, Central Region, and Death Valley Basin. These regions are further divided into hydrographic areas (valleys) and sub-areas based on unique hydrologic characteristics such as differences in surface flows. The surface hydrology

in the Central Region is characterized by internally draining sub-areas and therefore considered an intrastate basin. The Colorado River Basin and Death Valley Basin drain externally to interstate river systems and so are considered interstate basins. The significance of intrastate versus interstate basins lies in the definition of waters of the U.S. found in 33 CFR 328.3(a). For the USACE to exert jurisdiction over streams, lakes, and wetlands (among other types) within intrastate basins there must be an alternative connection, other than the tributary system, to interstate or foreign commerce. Examples of alternative connections include recreation, fish or shellfish, or industrial use by industries involved in interstate commerce. Table 1 lists the hydrographic regions and areas which each segment the CRC crosses.

Table 1. Hydrographic Region and Area Designations within Caliente Rail Corridor, Nevada

CRC Segment	Region and Area	Hydrographic Regions Intrastate or Interstate
	Colorado River Basin	
Eccles	Panaca Valley, Clover Valley	Interstate
Caliente	Panaca Valley	Interstate
WR1	Pahroc Valley, White River Valley	Interstate
CS1 Bennett Pass	Panaca Valley	Interstate
CS1 Pahroc Summit	Pahroc Valley	Interstate
	Central Region	
CS1 Bennett Pass	Dry Lake Valley	Intrastate
CS1 Pahroc Summit	Dry Lake Valley	Intrastate
WR1	Coal Valley	Intrastate
GV1	Garden Valley, Coal Valley	Intrastate
GV2	Garden Valley, Coal Valley	Intrastate
GV3	Garden Valley, Coal Valley	Intrastate
GV8	Garden Valley, Coal Valley	Intrastate
CS2 East	Penoyer Valley, Railroad Valley	Intrastate
CS2 West	Penoyer Valley, Railroad Valley	Intrastate
SR2	Railroad Valley	Intrastate
SR3	Railroad Valley	Intrastate
CS3 East	Railroad Valley, Hot Creek Valley	Intrastate
CS3 Warm Springs	Stone Cabin Valley, Hot Creek Valley	Intrastate
CS3 West 1	Stone Cabin Valley	Intrastate
CS3 West 2	Ralston Valley, Stone Cabin Valley	Intrastate
GF1	Alkali Spring Valley, Stonewall Flat, Ralston Valley	Intrastate
GF3	Ralston Valley, Stonewall Flat	Intrastate
GF4	Alkali Spring Valley, Lida Valley, Stonewall Flat, Ralston Valley	Intrastate
CS4	Lida Valley	Intrastate
BC2	Lida Valley, Sarcobatus Flat	Intrastate
BC3	Lida Valley, Sarcobatus Flat	Intrastate
CS5	Sarcobatus Flat	Intrastate
	Death Valley Basin	
OV1	Oasis Valley	Interstate
OV3	Oasis Valley	Interstate
BW1	Oasis Valley, Crater Flat	Interstate

CRC Segment	Region and Area	Hydrographic Regions Intrastate or Interstate
CS6 Busted Butte	Crater Flat, Fortymile Canyon	Interstate
CS5	Oasis Valley	Interstate

Ephemeral and intermittent washes dominate the stream types in the arid southwestern U.S. Due to the arid conditions of the desert, the project area is generally dry except during and immediately following storm events. Normally dry washes and playa surfaces may be inundated for hours following summer storms and weeks following winter storms.

3.3 Vegetation

The CRC is located in the southern part of the Great Basin from Caliente and to the west where it crosses into the Mojave Desert south of Beatty Wash. Land cover types typical of the Mojave Desert and Great Basin that occur in the CRC were quantified in the Yucca Mountain Repository EIS (DOE 2002). The dominant cover type for over half of the corridor is creosote-bursage, with blackbrush, hopsage, and Mojave mixed scrub covering approximately one-third of the corridor (DOE 2002).

Plant species typical of the Mojave Desert dominate the vegetation at low elevations along the southern end of the CRC. Low-elevation valleys, alluvial fans, and large washes are dominated by white bursage (Ambrosia dumosa), creosotebush (Larrea tridentata), Nevada jointfir (Ephedra nevadensis), littleleaf ratany (Krameria erecta), and pale wolfberry (Lycium pallidum). Low-elevation hillsides are dominated by similar species, with the addition of shadscale (Atriplex confertifolia), California buckwheat (Eriogonum fasciculatum), and spiny hopsage (Grayia spinosa) (DOE 2002).

At middle elevations, generally at the northern and eastern portions of the CRC, species typical of the Great Basin are dominant. Ridge tops and slopes are dominated by blackbrush (Coleogyne ramosissima), heathgoldenrod (Ericameria teretifolius), Nevada jointfir, broom snakeweed (Gutierrezia sarothrae), green ephedra (Ephedra viridis), and California buckwheat. On some steep north-facing slopes, big sagebrush (Artemisia tridentata) is predominant (DOE 2002).

Some common exotic plant species present in the CRC include red brome (*Bromus madritensis rubens*), Russian thistle (*Salsola* spp.), tumble mustard (*Sisymbrium altissimum*), halogeton (*Halogeton glomeratus*), and Arabian schismus (*Schismis arabicus*) (DOE 2002).

Within the interstate basins of the 0.25-mile corridor, desert spring and marsh vegetation communities occur along portions of the Meadow Valley Wash and at the isolated springs described in Section 4.2. Riparian (streambank) shrubs and trees, including willows (Salix sp.), tamarisk (Tamarix sp.), and cottonwoods (Populus sp.), occur along Clover Creek and Meadow Valley Wash.

4.0 WATERS OF THE U.S. DETERMINATION

The USACE regulates the discharge of dredged or fill material into WOUS. The term "waters of the U.S." applies to the jurisdictional limits of the authority of the USACE and typically includes streams, lakes and adjacent wetlands. For purposes of this report, ephemeral and perennial streams are referenced as WOUS, while wetlands are referenced separately.

The Colorado River and Amargosa River are interstate waters. In the CRC, Meadow Valley Wash and Clover Creek are part of the tributary system of the Colorado River, and Beatty Wash and Fortymile Wash are tributaries to the Amargosa River, and were investigated for WOUS under the jurisdiction of the USACE. The corridor segments within interstate hydrographic regions are listed in Table 1.

The limits of USACE jurisdiction extend to the ordinary high water mark (OHWM). If wetlands are found adjacent to a jurisdictional WOUS, then USACE jurisdiction extends to the limits of the wetland. The OHWM is generally defined as the clear, natural line on the shore or channel bank established by water fluctuations. In arid stream systems, the USACE has proposed a definition of ordinary high water based on physical features, including development of a channel bed and bank resulting from the most frequent or repeating hydrologic discharges. Techniques for identifying and determining limits of the USACE jurisdiction are provided in the Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States (USACE 2004) and Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest (USACE 2001).

Segments of the CRC that are within interstate hydrographic regions (see Table 1) were surveyed for WOUS and adjacent wetlands by PBS&J from January 2005 through June 2006. As mentioned previously, with the exception of the southern portion of the Caliente segment (see Figure 4a) the field survey generally covered an area 0.25 mile wide centered on the CRC rail alignment. The focus of the field surveys was to identify a definable channel bed and bank and determine the OHWM of washes in the project area, as well as delineate wetland areas. It is important to note that large storm events and higher than average snowfall occurred in Clover Creek and Meadow Valley Wash in January 2005 which could have lead to an overestimation on the extent of jurisdictional waters in those areas.

The field survey corridor was provided by Bechtel-SAIC as geographic information system (GIS) electronic shape files. The CRC shapefiles, USGS topographic maps, and site-specific aerial photography electronic files were uploaded to a field tablet (personal computer) with a global positioning system (GPS) and ArcPad© software for reference in the field. The field tablet included an ArcPad© application customized by PBS&J to store, organize, and manage the data collected in the field. The application design emulates the standardized USACE wetlands data collection form and another form with OHWM indicators for delineating ephemeral washes in arid stream systems. Both electronic forms included fields for collecting vegetation, soils, hydrology, and geomorphology data at each WOUS and wetland, and for recording photographs at each site. Data entry fields from these forms are listed in Appendix E.

Informational resources were reviewed prior to the field survey to assist in locating and identifying potential WOUS. Aerial photography (digital ortho-photo quarter-quadrangle (DOQQ) and site-specific aerial photography) and U.S. Geological Survey (USGS) topographic maps were used to identify drainage patterns and washes in the project area. The site-specific aerial photographs used were taken throughout 2005. The Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States was used as guidance for identifying and determining limits of the USACE jurisdiction. Delineations of wetlands adjacent to WOUS were performed using the USACE 1987 Wetland Delineation Manual.

4.1 Waters of the U.S. - Ephemeral and Perennial Streams

4.1.1 Methods

In an arid region, fluvial geomorphology principles provide a basis for understanding channel formation/evolution, bed and bank morphology, and sediment arrangement within arid streams. Stream channel form, cross-section, gradient, and watershed conditions control the type, size, and shape of the stream. These principles were used to identify an OHWM. The OHWM was identified by first determining areas on the land surface that were definitively above or below the OHWM (USACE 2004). Strong evidence of non-jurisdictional conditions is represented by features that are consistently above the OHWM such as rock varnishing, desert pavement, developed soils, and upland plant species, whereas conditions such as cobble bars, gravel sheets, in-stream sand ripples, particulate distribution, and desiccation/mud cracks are features below the OHWM (USACE 2004).

The horizontal extent of jurisdiction is based on flow from small to moderate storm events under normal conditions. The *Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States* discusses the potential for using vegetation patterns to assist in identifying an OHWM in the arid southwest because of the close association between riparian vegetation and stream hydrology. Therefore, the presence of riparian species was used to indicate that a wash received more frequent flows associated with smaller storm events and to more accurately determine the extent of WOUS.

In general, vegetation communities and plant species identified in ephemeral washes throughout the CRC varied little, if any, from vegetation found on the adjacent uplands. Riparian vegetation in an arid environment can be divided into three wetness classes: (1) hydroriparian areas are perennially saturated; (2) mesoriparian areas are seasonally moist; and (3) xeroriparian areas are predominantly dry with infrequent flood events (USACE 2004). The common wetness class identified within the CRC is xeroriparian, with mesoriparian areas along Clover Creek, and mesoriparian to hydroriparian areas along Meadow Valley Wash. Xeroriparian vegetation includes species that may be limited to, or are noticeably more abundant in, ephemeral washes. Desert willow (Chilopsis linearis) was one species that was noticeably more abundant in ephemeral washes. Desert willow occurs throughout the ephemeral washes in the CRC and was used as an indicator species. The presence of willow indicates the wash is generally large and wet enough to support xeroriparian species and contains sufficient flows to identify an OHWM.

There were two plant species identified in ephemeral WOUS (see Table 2) on public lands within the CRC as possibly occurring in riparian areas or wetlands, as listed on the National List of Plant Species That Occur in Wetlands: Intermountain (Region 8) (USFWS 1988). A facultative (FAC) species is equally likely to occur in both upland and riparian areas. Plants species that usually occur in wetter areas are classified as facultative wetland (FACW). Other plants identified in and adjacent to WOUS are not listed as species that occur in wetlands in any region of the country, or insufficient information is available to determine an indicator status.

Table 2. Indicator Plant Species Identified Within Ephemeral Waters of the U.S., Caliente Rail Corridor, Nevada

Scientific Name	Common Name	Region 8 Indicator Status*
Chilopsis linearis	Desert willow	FAC
Populus fremontii	Fremont's cottonwood	FACW

^{*}Notes: FAC = Facultative; FACW=Facultative Wetland (USFWS 1988)

Each potential WOUS identified on the topographic map and/or aerial photography was located in the field and a location data point was recorded with the GPS unit. If WOUS indicators were present (definable channel bed and bank, OHWM, and applicable vegetation) throughout the 0.25-mile corridor, the electronic data collection form was completed. The GPS unit was used to document points along the WOUS to create a continuous line (wash line) throughout the corridor. The dominant vegetative species, hydrologic characteristics, width of channel bed, and approximate depth of the OHWM were documented. If the channel width varied throughout the corridor, an average width was recorded. Generally, the width at the location of the rail alignment was recorded. Photographs were taken at each wash determined to be WOUS.

4.1.2 Results

A total of 74 stream channels were identified as likely jurisdictional WOUS within the CRC; the USACE will make all final jurisdictional determinations. Widths of the washes ranged from 1 to 50 feet, with average and median widths of 9 and 4 feet, respectively. The locations of each WOUS are shown on



Figures 3A through 3E. WOUS segments occurring within the 0.25- mile corridors surveyed are highlighted in blue. Connections to interstate tributaries are not shown for all WOUS; however, all WOUS have been determined to connect to jurisdictional tributaries. Widths and depths of each jurisdictional WOUS found are listed in Table 3. Corridor segments not shown in the figures or listed in the table did not have jurisdictional WOUS identified during the field surveys.

The corridor crosses the White River Valley in the vicinity of the intersection of CS1-West with State Highway 318. Historically, the White River drained into the Colorado River; however, the flow has been disrupted since the last pluvial period (Houghton 1976). The hydrology has been primarily altered by changes in topography and geological conditions. No evidence of a discernable channel bed and bank was found in the area where the corridor crosses the White River Valley. Additional field observations within the White River Valley south of the crossing (historically downstream), confirmed the lack of a discernable channel bed and bank. Because no physical indicators of a WOUS exist throughout the White River Valley, it has been determined that the White River and associated tributaries do not have connectivity to the Colorado River System and do not appear to have other nexus with interstate or foreign commerce, therefore are not WOUS as defined by 33 CFR 328(a). Photographs and a topographic map of the area where the corridor crosses the White River Valley and which support this conclusion are provided in Appendix D. The topographic map shows that the valley bottom region crossed by the rail line is flat with no flow channel. It also shows where deposition of alluvium from channels flowing into the valley bottom has caused changes in elevation that block downstream flow. Similar conditions also occur downstream of this crossing.

A large wash, labeled WOUS 1 in Table 1 and Figures 3A and 3C, crosses CS1 just west of U.S. Highway 93 in Meadow Valley. This wash crossing is on private land and was not surveyed. However, the wash was examined upstream and downstream of the intersection with the CRC and was determined to be jurisdictional. The wash therefore is labeled jurisdictional in this report.

Table 3. Waters of the U.S. Identified within the Caliente Rail Corridor, Nevada

CRC Segment	WOUS ID #	Figure #	Width at OHWM (feet).	Depth at OHWM
Caliente/Eccles	1	3a	3.5	4
Caliente/Eccles	2	3a	8	12
Caliente/Eccles	2A	3a	8	12
Caliente	3	3a	2.5	3
Caliente	4	3a	1	2
Caliente	5	3a	10	2
Caliente	6A	3a	12	12
Caliente	6B	3a	25	3
Caliente	7	3a	4	3
Eccles	8	3a	1.5	3
Eccles	9	3a	2	5
Eccles	10	3a	4	3
Eccles	11	3a	1	1
Eccles	12	3a	2	1
Eccles	13A	3a, 3b	3	2
Eccles	13B	3a, 3b	5.5	2
Eccles	13C	3a, 3b	6	3
Eccles	14	3a, 3b	3	1
Eccles	15	3a, 3b	1.5	2
Eccles	16	3a, 3b	2	2
Eccles	17	3a, 3b	3.5	3
Eccles	18	3a, 3b	15	2

CRC Segment	WOUS ID	Figure #	Width at OHWM	Approximate Depth at OHWM
Faller		0.01	(feet)	(inches)
Eccles	19A	3a, 3b	17	12
Eccles	19B	3a, 3b	25	12
Eccles	19C	3a, 3b	17	12
Eccles	19D	3a, 3b	25	12
Eccles	19E	3a, 3b	8	12
Eccles	19F	3a, 3b	12	12
Eccles	19G	3a, 3b	40	12
Eccles	19H	3a, 3b	30	12
Eccles	191	3a, 3b	10	12
Eccles	19J	3a, 3b	50	12
Caliente	19K	3a	35	12
Caliente	19L	3a	25	12
Eccles	20A	3a, 3b	9	3
Eccles	20B	3a, 3b	8	3
Eccles	20C	3a, 3b	5	3
Eccles	21	3a, 3b	6.5	2
Eccles	22	3a, 3b	4	3
Eccles	23	3a, 3b	8	2
Eccles	24	3a, 3b	20	3
Eccles	25	3a, 3b	5	1
Eccles	26	3a, 3b	12	1
Eccles	27	3a, 3b	6	2
Eccles	28	3a, 3b	40	3
Eccles	29	3a, 3b	15	2
Eccles	30	3a, 3b	8	3
Eccles	31	3a, 3b	8	2
Eccles	32	3a, 3b	20	2
Eccles	33	3a, 3b	1.5	2
Eccles	34A	3a, 3b	1.5	1
Eccles	34B	3a, 3b	10	2
Eccles	35A	3a, 3b	4	1
Eccles	35B	3a, 3b	8	2
Eccles	36	3a, 3b	30	1
Eccles	37	3a, 3b	40	1
Eccles	38	3a, 3b	30	1
Eccles	39	3a, 3b	8	1
Eccles	40A	3a, 3b	6	3
Eccles	40B	3a, 3b	1	2
CS1 Bennett				
Pass	41A	3c	3	2
CS1 Bennett				
Pass	41B	3c	1.5	1
CS1 Bennett				
Pass	42	3c	1.5	1
CS1 Bennett				
Pass	43	3c	2	2
CS1 Bennett				
Pass	44	3c	4	3
CS1 Bennett				
Pass	45	3c	3.5	2
CS1 Bennett				_
Pass	46A	3c	7.5	4
CS1 Bennett	46B	3c	6	3
		00		

CRC Segment	WOUS ID	Figure #	Width at OHWM (feet)	Approximate Depth at OHWM (inches)
Pass				,
CS1 Bennett	***************************************			
Pass	46C	3c	2	2
CS1 Bennett				
Pass	47	3c	3.5	3
CS1 Bennett				
Pass	48	3c	3	2
CS1 Bennett				
Pass	49	3c	3	1
CS1 Bennett				
Pass	50	3c	1.5	1
CS1 Bennett				
Pass	51	3c	1.7	1
CS1 Bennett			•	
Pass	52	3c	1.7	1
CS1 Bennett				Ì
Pass	53	3c	1.7	1
CS1 Bennett				
Pass	54	3c	2.5	3
CS1 Bennett		_	_	
Pass	55	3c	2	1
OV3	56	3d	2	2
OV1	57	3d	6	1
OV1	58	3d	8	6
BW1	59	3d	2	2
BW1	60	3d	2	2
BW1	61	3d	15	6
BW1	62	3d	1	1
BW1	63	3d	3	3
BW1	64	3d	2	2
BW1	65	3d	1.5	2
BW1	66	3d	2	2
BW1	67	3d	2	2
BW1	68	3d	5	2
BW1	69	3d	1.5	1
BW1	70	3d	1.5	1
CS6 Busted	74		•	
Butte	71	3e	3	2
CS6 Busted Butte	70	20	,	_
CS6 Busted	72	3e	2	2
Butte	72	20	,	,
CS6 Busted	73	3e	2	2
Butte	74	Зе	2	2

4.2 Wetlands

Wetlands include areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3(b)). Wetlands normally exhibit three general parameters – wetland hydrology, hydrophytic vegetation, and hydric soils. Evidence of each of these three parameters are typically required to positively identify a wetland.

In addition to the three parameters discussed above, a wetland must be immediately adjacent to, or have a conceivable, periodic surface water connection to other waters of the U.S. to meet the definition of adjacent wetland in 33 CFR 328.3. Unvegetated perennial or intermittent stream channels with an ordinary high water mark, as well as open water areas such as lakes are examples of areas typically considered to be waters of the U.S. by the USACE. Jurisdiction will ultimately be decided by the USACE relative to each of the wetlands identified within the project area.

4.2.1 Methods

The identification and delineation of wetlands within the CRC was performed using all available information and during three field efforts conducted in May 2005, January 2006, and June 2006. The January and June 2006 field efforts focused on the Clover Creek area of the Eccles Alignment and the Meadow Valley Wash area of the Caliente Segment.

Aerial photographs taken throughout 2005 and USGS topographic maps were examined for the presence of known and potential water features and springs in and adjacent to the entire CRC; including both interstate and intrastate hydrographic regions. Available National Wetland Inventory (NWI) mapping was also reviewed to locate potential wetland habitat along the entire CRC.

Delineations of wetlands adjacent to WOUS in the interstate hydrographic regions were performed within the CRC using the routine method as described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). Additional guidance for delineations was taken from the Draft Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2005). The indicator status of vegetation species was derived from the National List of Plant Species That Occur in Wetlands: Intermountain Region (Region 8) (USFWS 1988). Wetlands were classified using the U.S. Fish and Wildlife Service Classification system (Cowardin et al. 1979).

The USACE Wetlands Delineation Manual requires the simultaneous presence of hydrophytic vegetation, wetland hydrology, and hydric soils during the growing season to positively delineate an area as a wetland. The growing season for the Caliente Area is estimated by the Natural Resources Conservation Service (NRCS) to extend from April 20th to October 21st (184 days) (NRCS 2002). According to the delineation manual, to be considered a wetland an area must remain inundated or saturated to the surface continuously for a minimum of five percent of the growing season (Environmental Laboratory 1987). For the Caliente project area this translates into a requirement of nine consecutive days of soil saturation.

Wetland boundaries were primarily established using the resource grade GPS unit and ArcPad© on the field tablet. The accuracy of the GPS unit ranges from 10 to 15 feet. Wetland boundaries of each wetland polygon were then evaluated in the office and shifted as needed to best conform to the signature observed on the 2005 aerial photography. Wetland boundaries were not flagged in the field.

For purposes of this report 2 areas are classified as potential wetland (PWT) (Figure 4A). Accessibility to these wetlands was limited by private property access restrictions. Identification of PWTs was accomplished using visual observations from public access locations and by review of aerial photography taken throughout 2005. PWT boundaries were estimated by identifying hydrophytic vegetation in the field (where possible) and/or by examining aerial photography. These wetlands are considered "potential" until confirmed by the presence of the three wetland parameters. Estimated potential wetland boundaries were drawn on the field tablet.

4.2.2 Results

A total of 54 sample points were performed (see data forms in Appendix C) and a total of approximately 82.8 acres of wetland area identified (Table 4). Of the wetlands identified, 81.6 acres are preliminarily considered to be jurisdictional, and 1.2 acres considered to be non-jurisdictional due to their lack of surface connections to the tributary system, or to wetlands adjacent to the tributary system (Table 4). Note that the U.S. Army Corps of Engineers will make the final jurisdictional determinations. Figures 4A through 4T depict all wetlands identified within the CRC (Appendix A). Select site photographs from representative WOUS and wetlands are included in Appendix B. All site photographs and CRC collected data are included with the electronic ArcGIS files.

Throughout the entire 505 mile long study area the majority of wetlands identified occurred along Meadow Valley Wash north of Caliente and, to a lesser degree, along Clover Creek, just east of Caliente. Wetlands in these areas occur within the Caliente and Eccles segments (see Figures 4A through 4R in Appendix A).

Table 4. Summary of wetlands within the Caliente and Eccles Segments of the Caliente Rail Corridor (CRC), Nevada.

and the second	South at the Con-	1 1 7 4 54 74	a contract	Secretaria de las desembras de	Preliminary	
Wetland	Sample	Figure	Photo	USFWS	Jurisdictional	Size
ID .	Point(s) ^a	No.	No.b	Classification	Determination ^d	(acres)
		4a, 4c,				(4.57.55)
CC01	CCE-1,2,3	4d, 4e	17, 18	PEM	Jurisdictional	3.4
CC02	CCW-4	4a, 4c, 4d	19	PEM	Jurisdictional	<0.1
CC03	CCW-5,3	4a, 4c, 4d	20	PEM	Jurisdictional	0.1
~~~		4a, 4c,	•			
CC04	CCW-1,2,3	4d, 4e	21	PEM	Jurisdictional	0.3
CC04a	CCW-1,2,3	4a, 4e		PEM	Jurisdictional	0.2
CC04b	CCW-1,2,3	4a, 4c, 4d		PEM	Jurisdictional	<0.1
CC05	CCW-6,7	4a, 4e	22	PEM	Jurisdictional	0.1
CC06	CCW-8	4a, 4e	23	PEM	Jurisdictional	0.1
		4a, 4e, 4f,				
CC07	CCE-4	4g, 4h	23, 24	PEM	Jurisdictional	7.9
CC08	CCW-9	4a, 4e, 4f	25	PEM	Jurisdictional	0.1
CC09	CCW-10	4a, 4f, 4g	26	PEM	Jurisdictional	2.0
CC10	CCW-11	4a, 4g, 4h	27	PEM	Jurisdictional	1.5
CC11	CCE-5	4a, 4h	28	PEM	Non-Jurisdictional	<0.1
CC12	CCE-6	4a, 4h, 4i	29	PEM	Jurisdictional	1.5
CC13	CCE-7,8	4a, 4i	30	PEM	Jurisdictional	1.3
CC14	CCW-12	4a, 4i	31	PEM	Jurisdictional	0.4
CC15	CCW-13	4a, 4i, 4j	32	PEM	Jurisdictional	0.2
CC16	CCE-9	4a, 4j	33	PEM	Non-Jurisdictional	<0.1
	CCE-10, 11,	4a, 4j, 4k	34, 35,			
CC17	12	4a, 4j, 4k	36	PEM	Jurisdictional	6.9
CC18	CCW-14	4a, 4j	37	PEM	Jurisdictional	0.1
	CCE-13,14;	4a, 4k				
CC19	CCW-15	4a, 4k		PEM	Jurisdictional	1.2
	CCE-13,14,	4a, 4k, 4l				
CC20	15		38, 39	PEM	Jurisdictional	0.6
		4a, 41,	40, 41,			
CC21	CCW-18	4m, 4n	42, 43	PEM	Jurisdictional	11.4
CC22		4a, 4l	44	PEM	Non-Jurisdictional	0.1
CC23	CCW-17	4a, 4n	45	PEM	Non-Jurisdictional	0.1
	CCE-16,	4a, 4n, 40				
CC24	CCE-18		46	PEM	Jurisdictional	0.2
CC25	CCW-16, 20	4a, 4o, 4p	47, 48	PEM	Jurisdictional	3.0
CC26	CCE-19	4a, 4o	49	PEM	Jurisdictional	1.1
PWT-1	None	4a		PSS	Jurisdictional	5.6
PWT-2	None	4a, 4q, 4r		PEM/PSS	Jurisdictional	11.8
WT-01	WT-1	4a, 4r	10	PSS	Jurisdictional	3.3

Wetland ID	Sample Point(s) ^a	Figure No.	Photo	USFWS Classification ^c	Preliminary Jurisdictional Determination ^d	Size (acres)
WT-01A	WT-1	4a, 4r	-	PSS	Jurisdictional	1.4
WT-02	WT-2	4a, 4r	11	PEM/PSS	Jurisdictional	0.6
WT-03	WT-3	4a, 4r	12	PSS	Non-Jurisdictional	0.6
WT-04	WT-4	4a, 4r	13	PEM	Jurisdictional	0.7
WT-05	WT-5	4a, 4c	7	PEM	Jurisdictional	6.1
WT-06	WT-6	4a, 4c		PSS	Jurisdictional	0.3
WT-07	WT-7	4a, 4b		PEM	Jurisdictional	3.9
WT-08*	WT-8	4a, 4b		PEM	Non-Jurisdictional	0.1
WT-09	WT-9	4a, 4b	14	PEM (will likely develop into a PSS)	Jurisdictional	4.1
WT-10	WT-10	4a, 4b	15	PEM (will likely develop into a PSS)	Jurisdictional	. 0.1
WT-11*	WT-11	4a, 4b	16	PSS	Jurisdictional	0.2
WT-12	WT-12	4s	50, 51	PEM	Non-Jurisdictional	0.1
WT-13	WT-13	4s	51	PEM	Non-Jurisdictional	<0.1
WT-14	WT-14	4s	50, 51	PEM	Non-Jurisdictional	<0.1
WT-15	WT-15	4t	52, 53	PEM	Non-Jurisdictional	<0.1
	e gere greek gan de bestelle gebeure. Little geren geren de bestelle geren d				APPROXIMATE TOTAL	82.8

^{*}Provisional wetland determination, site will require additional investigation if it will be impacted. ^aSee Appendix C. ^bSee Appendix B. ^cBased on Cowardin et al. 1979. PEM = Palustrine emergent; PSS = Palustrine scrub-shrub. ^dThe Corps of Engineers will make the final jurisdictional determination.

#### Vegetation

According to the USFWS classification for wetlands (Cowardin et al. 1979), all of the wetlands within the project area are classified as palustrine emergent and palustrine scrub-shrub wetlands. Though plant species composition varied among wetland polygons, the most prevalent hydrophytic herbaceous species encountered were clustered field sedge (Carex praegracilis), wiregrass (Juncus balticus), inland saltgrass (Distichlis spicata), foxtail barley (Hordeum jubatum), spikerush (Eleocharis palustris), hardstem bulrush (Scirpus acutus), cattail (Typha sp.), and Olney's three-square (Scirpus americanus). In scrub-shrub wetlands the most prevalent hydrophytic shrub species encountered were saltcedar (Tamarix ramosissima), willow (Salix sp.), and Fremont's cottonwood (Populus fremontii). A complete list of plant species and their indicator status identified in, and immediately adjacent to wetlands, are listed in Table 5.

Table 5. Indicator plant species identified in wetlands or adjacent uplands within the Caliente Rail Corridor, Nevada

Scientific Name	Common Name	USFWS 1988 Region 8 Indicator Status*
Agropyron repens	Quackgrass	FACU
Agropyron smithii	Western wheatgrass	FACU
Agrostis alba	Redtop	FACW
Alopecurus pratensis	Meadow foxtail	NI
Anemopsis californica	Yerba mansa	OBL
Carex nebrascensis	Nebraska sedge	OBL
Carex praegracilis	Clustered field sedge	FACW
Carex sp.	Sedge	FAC-OBL
Chrysothamnus nauseosus	Rubber rabbitbrush	Not listed
Convolvulus arvensis	Field bindweed	Not listed
Distichlis spicata	Inland saltgrass	FAC+
Eleagnus angustifolia	Russian olive	FAC
Eleocharis palustris	Creeping spikerush	OBL
Epilobium sp.	Willowherb	FAC-FACW
Hordeum jubatum	Foxtail barley	FAC
Iva axillaris	Poverty sumpweed	FACW
Juncus balticus	Baltic rush	FACW
Juncus bufonius	Toad rush	FACW
Mimulus guttatus	Seep monkeyflower	OBL
Phragmites australis	Common reed	FACW+

Scientific Name	Common Name	USFWS 1988 Region 8 Indicator Status*
Polypogon monspeliensis	Rabbitfoot grass	FACW+
Populus fremontii	Fremont's cottonwood	FACW
Potentilla anserina	Silverweed	OBL
Puccinellia lemmonii	Lemmon's alkaligrass	FAC
Ranunculus sp.	Buttercup	OBL
Rhus trilobata	Skunkbush	NI
Rosa woodsii	Woods rose	FAC-
Salix exigua	Sandbar willow	OBL
Salix sp.	Willow	FAC-OBL
Sarcobatus vermiculatus	Black greasewood	FACU
Scirpus acutus	Hardstem bulrush	OBL
Scirpus americanus	Olney's three-square	OBL
Scirpus maritimus	Alkali bulrush	OBL
Tamarisk ramosissima	Saltcedar	FACW
Taraxacum officinale	Dandelion	FACU+
Typha latifolia	Broadleaf cattail	OBL
Veronica americana	American speedwell	OBL
Veronica sp.	Speedwell	OBL

^{*}FACU=Facultative Upland; FAC=Facultative; FACW=Facultative Wetland; OBL=Obligate NI=Non-Indicator (USFWS 1988). When two indicators are listed it reflects the lowest to the highest frequency of occurrence in wetlands.

#### Hydrology

Within the Clover Creek area of the Eccles alignment the primary source of water supporting wetlands WT-7, 9, 10 and 11 is Clover Creek and its alluvial aquifer. Wetland hydrology of this area was determined to result primarily from overbank flooding and the close proximity of the alluvial aquifer to the soil surface (i.e., high water table). Wetland hydrology of wetland WT-8 appears to result from ponding of surface runoff against the railroad berm. Primary indicators of wetland hydrology in the Clover Creek portion of the project area included soil saturation, high water table, drainage patterns, drift lines, water marks, and biotic crust (i.e., algal mats). The only secondary indicator of wetland hydrology observed was passing the FAC-neutral test.

Similarly, the hydrology of the Meadow Valley area is either directly or indirectly linked to Meadow Valley Wash. The source of hydrology for wetlands such as WT-1, 1A, 2, 4 thru 6, and PWT 1 and 2, all of which occur immediately adjacent to Meadow Valley Wash, is primarily overbank flooding. Emergent wetlands not directly affected by the stream itself, such as wetland CC21, are likely driven by groundwater associated with the stream (i.e., alluvial aquifer). This is particularly evident in Figure 4J and photos 34, 35, and 36 which show that the valley containing Meadow Valley Wash narrows substantially. This valley narrowing appears to act as grade control on both surface and subsurface water flow and has resulted in a high water table close to or inundating the soil surface, especially upgradient of this geologic feature. Note that the proposed alignment follows the historic railroad bed, which is generally 2 to 3 feet above the surrounding terrain and considered upland for almost its entire length (Figures 4D – 4Q, see photos 17, 21, 24, 26, 27, 29, 30, 31, 32, 34, 35, 38, 43, 47 of the historic railroad berm in Appendix B). Primary indicators of wetland hydrology found in the Meadow Valley portion of the project area included inundation, soil saturation, high water table, drainage patterns, soil surface cracks, and biotic crust (i.e., algal mats). Secondary indicators of wetland hydrology observed were mud casts (i.e., livestock pugging), salt deposits, oxidized rhizospheres, and passing the FAC-neutral test.

The hydrology of wetlands WT-12 thru 15 is somewhat different from those found in the eastern portion of the project area and appeared to be primarily dependent on groundwater (i.e., a spring) at both of these locations (Figures 4S and T). At wetlands WT-12, 13 and 14 the spring was developed by excavating or blasting a hole into the parent material and excavating a channel to convey water into a basin used as a stock watering pond. At the time of the field survey water was flowing from the spring head through the channel to the stock pond where it was less than two feet deep. Wetland WT-15 contained a small pool of standing water. Primary indicators of wetland hydrology found in the western portion of the project

area included inundation, soil saturation, sediment deposits, and drainage patterns. Secondary indicators of wetland hydrology observed were oxidized rhizospheres and passing the FAC-neutral test.

#### Soils

Soils found in wetlands in the Eccles portion of the project area consist of the Veet-Mosida association (VM) which is considered to be a well-drained very gravelly sandy loam (NRCS 2006a). The soil series that occur at wetland sites within the Caliente segment include: Pahranagat silty clay loam - drained (Pg), Pahranagat silty clay loam (Pe), Zoate-rock outcrop association (ZR), Geer silt loam - slightly saline (Gg), and Geer silt loam - strongly saline (Gh) (SCS 1976). The Pahranagat silty clay loam and the Geer silt loam - strongly saline soil series are classified as hydric (NRCS 2006b). Pahranagat silty clay loams are considered to be poorly to somewhat poorly drained, the Geer silt loam series is considered to be moderately well drained, while the Zoate-rock outcrop association is considered to be well drained. During June 2006 field work the soils in the Meadow Valley Wash area were generally found to be comprised of silty clay material. Hydric soil indicators observed in both the Eccles and Caliente segments included aquic moisture regime, sulfidic odor, gleying, chroma of 1, and chroma of 2 with mottles. In some instances field indicators of hydric soils were lacking; possibly due to high soil pH limiting the formation of redoximorphic features, irrigation, or other factors. In these instances best professional judgment was used and more emphasis was placed on the presence of hydrophytic vegetation and wetland hydrology indicators.

Soils in the vicinity of wetlands WT-12, 13, and 14 have not been mapped by the NRCS. Soils in this area were primarily silt loams and gravelly loams during the field survey. Hydric soil indicators observed in this area were low chroma and an aquic moisture regime. The soils in the vicinity of WT-15 also have not been mapped by the NRCS. Soils at this location had a texture of silty loam in the upper horizons and a silty clay loam at deeper depths. Hydric soil indicators observed were a sulfidic odor and low chroma with mottles.

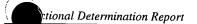
Table 6 provides more specific information on the hydrology, vegetation, soils, and wetland boundaries of all wetlands identified in the CRC.



Table 6. Summary information of wetland polygons within the Caliente Rail Corridor, Nevada.

Wetland	Dominant	Hydrology	Hydric Soil		Approximate the second
ID	Vegetation	Indicators	Indicators	Boundary Notes	General Remarks*
CC1 & CC7	Carex praegracilis Juncus balticus Eleocharis palustris Hordeum jubatum Distichlis spicata	Algal mats (dried), Mud cracks (up to 16 inches deep), mud casts from livestock	Aquic moisture regime (assumed), low chroma	Wetland boundary determined by a change in elevation, and by a switch in dominant vegetation to rabbitbrush and greasewood. The old railroad grade berm comprises the western boundary. Wetland extends to east beyond the project limits.	The hydrology of these two polygons appears to be driven primarily by a gravity type irrigation system originating from Meadow Valley Wash at the north end of the fields. Soils are silty clay in texture, which would be expected to seal when wetted from above and thereby limit the development of redoximorphic features in the deeper horizons. Salt concentrations may also limit the development of strong redoximorphic features. It is also noted that the length of soil saturation appears to be long enough for the development of hydrophytic vegetation and to meet the minimum hydrology requirement, but may not be long enough to develop strong hydric soil indicators. In addition, these fields have been observed from the highway to be wet in the winter and spring on various occasions in 2005 and 2006 by project staff. These two polygons are connected by a culvert under the road that separates them and connect to Meadow Valley Wash via a channel at the southern end.
CC2	Juncus balticus Hordeum jubatum Distichlis spicata Polypogon monspeliensis	Sediment deposits, mud casts from livestock, depressional topography	Low chroma	This wetland is located in a depression with a clear change in vegetation to rabbitbrush and greasewood.	Wetland occurs approximately 30 feet north of the channel of Meadow Valley Wash. Due to its proximity to the Wash, this wetland was considered jurisdictional.
CC3	Carex praegracilis Juncus balticus Hordeum jubatum Distichlis spicata Sarcobatus vermiculatus	Salt crust, mud cracks, depressional topography	Aquic moisture regime (assumed)	This wetland is located in a slight depression with a change in vegetation to primarily greasewood.	This wetland would likely connect to jurisdictional wetland polygon CC1 if the railroad bed was not present, and is therefore considered jurisdictional.
CC4, 4a, & 5	Carex praegracilis Juncus balticus	Algal mats (dried), depressional topography	Aquic moisture regime (assumed)	These wetlands are located in a slight depression with a change in elevation corresponding to a change in vegetation to greasewood and rabbitbrush.	These wetlands would likely connect to jurisdictional wetland polygons CC1 and CC7 if the railroad bed was not present, and are therefore considered jurisdictional.
CC4b	Distichlis spicata	Algal mats (dried), depressional topography	Aquic moisture regime (assumed)	This wetland is located in a slight depression with a change in vegetation to greasewood and rabbitbrush.	This wetland would likely connect to jurisdictional wetland polygon CC1 if the railroad bed was not present, and is therefore considered jurisdictional.
CC6	Scirpus acutus Scirpus maritimus	Inundation	Aquic moisture regime (assumed)	This wetland is located in a pronounced depression with a distinct change in vegetation to greasewood and rabbitbrush.	The site was inundated to approximately 6 inches above the soil surface. Hydrology for this wetland appears to be driven by a high groundwater table. This wetland would likely connect to Meadow Valley Wash if the highway was not present, and is therefore considered jurisdictional.
CC8	Carex praegracilis Juncus balticus Hordeum jubatum Distichlis spicata	Drainage patterns, salt crust	Aquic moisture regime (assumed)	Boundary is based on a change in elevation, change in plant species to rabbitbrush and greasewood and in some locations the limits of the observed salt crust.	This wetland would likely connect to jurisdictional wetland polygon CC7 if the railroad bed was not present, or Meadow Valley Wash if the road was not present, and is therefore considered jurisdictional.
CC9	Carex praegracilis Juncus balticus Distichlis spicata	Depressional topography, FAC-neutral test, oxidized	Low chroma with mottles	Boundary is based on a distinct change in elevation, and/or a change in plant species to rabbitbrush and greasewood.	Considered jurisdictional because it connects to Meadow Valley Wash via a culvert.

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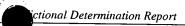


Wetland	Dominant	Hydrology	Hydric Soil		
ID	Vegetation	Indicators	Indicators	Boundary Notes	General Remarks*
		rhizospheres			
CC10	Eleocharis palustris Carex praegracilis Juncus balticus Distichlis spicata	Depressional topography, algal mats (dried), FAC- neutral test	Aquic moisture regime (assumed)	Boundary is based on a distinct change in elevation, and/or a change in plant species to rabbitbrush and greasewood.	Site contains patches of cattail and bulrush at southern end, as move northward the site becomes inundated/saturated and bulrushes are common (west side of berm opposite pond at polygon CC12). This wetland would likely connect to jurisdictional wetland polygon CC7 if the railroad bed was not present and is therefore considered jurisdictional.
CC11	Carex praegracilis Juncus balticus Hordeum jubatum Distichlis spicata	Depressional topography, mud cracks, FAC-neutral test	Low chroma	Boundary is based on a distinct change in elevation, and/or a change in plant species to greasewood.	This wetland was likely formed by the railroad bed causing water to pond. This wetland was considered non-jurisdictional due to no observed surface connection to jurisdictional waters of the U.S.
CC12	Carex praegracilis Juncus balticus Scirpus maritimus Aquatic macrophytes	Inundation	Inundation - aquic moisture regime	Boundary is based on a distinct change in elevation, and/or a change in plant species to rabbitbrush and greasewood.	Pond area inundated to approximately 18 inches in depth. Hydrology appears to be groundwater. This wetland would likely connect to jurisdictional wetland polygon CC7 via wetland polygon CC10 if the railroad bed was not present, or to wetlands adjacent to Meadow Valley Wash if the road was not present and is therefore considered jurisdictional.
CC13	Agrostis alba Juncus balticus Carex praegracilis Distichlis spicata	Depressional topography, mud cracks, salt crust, FAC- neutral test	Low chroma with mottles	Boundary is based on a change in elevation, and/or a change in plant species to dominance by rabbitbrush and greasewood.	Hydrology appears to be derived from groundwater. Site has multiple upland islands. This wetland would likely connect to Meadow Valley Wash if the highway and the railroad bed were not present and is therefore considered jurisdictional.
CC14	Agrostis alba Juncus balticus Carex nebrascensis	Depressional topography, hummocky (perhaps from livestock), mud cracks, drainage patterns, FAC- neutral test	Low chroma with mottles	Boundary is based on a change in elevation, and/or a change in plant species to dominance by greasewood.	Site also contains some scattered hardstem bulrush. Hydrology appears to be derived from groundwater, but may be drying out. The site drains to Meadow Valley Wash at the southern end through a culvert and so was considered jurisdictional.
CC15	Carex pruegracilis Juncus balticus Hordeum jubatum	Depressional topography, mud cracks, drainage patterns, FAC- neutral test, oxidized rhizospheres	Low chroma with mottles	Boundary is based on a change in elevation, and/or a change in plant species to dominance by greasewood.	Pockets of alkali bulrush and cattail occur at lower elevations. This wetland would likely connect to Meadow Valley Wash if the highway was not present and is therefore considered jurisdictional.
CC16	Hordeum jubatum	Depressional topography, mud cracks, oxidized rhizospheres	Aquic moisture regime (assumed)	Boundary is based on a change in elevation, and/or a change in plant species to dominance by Woods rose and skunkbush.	This wetland is considered non-jurisdictional due to no observed surface connection to jurisdictional waters of the U.S.
CC17	Scirpus acutus Carex nebrascensis Agrostis alba	Inundated or saturated; drainage	Aquic moisture regime, low chroma with	Boundary is based on a change in elevation, and/or a change in plant species to dominance by upland species.	Large wetland complex which encompasses Meadow Valley Wash at the canyon mouth and that is wettest at the southern end and becomes drier as move northward (see sample points CCE-11 & 12). Considered



Wetland	Dominant	Hydrology	Hydric Soil		
ID	Vegetation	Indicators	Indicators	Boundary Notes	General Remarks*
	Juncus balticus Carex praegracilis Hordeum jubatum	patterns	mottles		jurisdictional due to occurrence in and adjacent to Meadow Valley Wash's channel.
CC18	Agrostis alba Juncus balticus Carex praegracilis Scirpus pungens Distichlis spicata	Saturated to surface	Sulfidic odor, low chroma;	Boundary is based on a change in elevation, and/or a change in plant species to dominance by greasewood and rabbitbrush.	Hydrology appears to be derived from groundwater. Cattails occur in lower elevational areas. This wetland would likely connect to Meadow Valley Wash if the highway was not present and is therefore considered jurisdictional.
CC19 & 20	Distichlis spicata	Mud casts, salt crust, drainage patterns	Low chroma, sulfidic odor	Boundary is based on a change in elevation, and/or a change in plant species to dominance by greasewood and rabbitbrush.	In lower elevation areas dominant species are spikerush and redtop. These wetland polygons are a continuation of polygon CC17, and so is considered jurisdictional.
CC21	Carex praegracilis Juncus balticus Hordeum jubatum Agrostis alba Scirpus acutus Scirpus americanus	Inundation/soil saturation, depressional topography, mud casts, FAC-neutral test, oxidized rhizospheres	Aquic moisture regime, low chroma with mottles	Boundary is based on a change in elevation, and/or a change in plant species to dominance by greasewood and rabbitbrush.	Extensive wetland complex adjacent to Meadow Valley Wash with areas of inundation. Dominant hydrology appears to be groundwater. Considered jurisdictional due to its adjacency to Meadow Valley Wash and its connection to wetland polygons CC20, which connects to CC19, which connects to CC17.
CC22	Carex praegracilis Juncus balticus Hordeum jubatum Agrostis alba Polypogon monspeliensis Agropyron repens	Depressional topography, FAC-neutral test	Aquic moisture regime (assumed)	Boundary is based on a change in elevation, and/or a change in plant species to dominance by greasewood and rabbitbrush.	Small wetland sliver adjacent to alignment. This wetland appears to be a result of the construction of the railroad bed. It appears to have no surface connection to jurisdictional waters of the U.S. and is therefore considered non-jurisdictional.
CC23	Carex nebrascensis Juncus balticus Potentilla anserina Agrostis alba	Inundation/soil saturation	Low chroma, mottling	Boundary is based on a change in elevation, and/or a change in plant species to dominance by rabbitbrush.	Small spring. This wetland is considered non-jurisdictional due to no observed surface connection to jurisdictional waters of the U.S.
CC24	Carex praegracilis Juncus balticus Carex nebrascensis Agropyron smithii	Depressional topography with drainage patterns, mud casts (livestock), oxidized rhizospheres, FAC-neutral test	Aquic moisture regime (assumed)	Boundary is based on a change in elevation, and/or a change in plant species to dominance by rabbitbrush.	Located in what appears to be an historic drainage or irrigation ditch. With the exception of the area delineated, the majority of the ditch appears to have lost wetland hydrology. This wetland would likely be a part of jurisdictional wetland CC25 if the railroad bed were not present and is therefore considered jurisdictional.
CC25	Carex praegracilis Juncus balticus Hordeum jubatum Agrostis alba Potentilla anserina Anemopsis californica	Soil saturation assumed to occur in April/May because soil was very moist throughout profile.	Low chroma, mottling	Boundary is based on a change in elevation, and/or a change in plant species to dominance by rabbitbrush.	Large wetland complex that connects to polygon CC-21 to the west, outside of the project area. For this reason it is considered jurisdictional.

Wetland	Dominant	Hydrology	Hydric Soil	San Andrews	
ID	Vegetation	Indicators	Indicators	Boundary Notes	General Remarks*
CC26	Distichlis spicata Juncus balticus Puccinellia lenmonii	Depressional topography, mud casts, salt crust	Low chroma with mottles	Boundary was based on preponderance of evidence including relative thickness of salt crust, deeper depths of mud casts, and slight changes in microtopography.	Connects to polygon CC25 via a culvert under the railroad bed. For this reason it is considered jurisdictional.
WT-01 & -01A	Salix sp. Tamarix ramosissima	Drainage patterns, FAC- Neutral test	Aquic moisture regime (assumed)	Channel is incised below surrounding landscape. Wetland occurs on bankfull bench between the channel and the nearly vertical sideslopes.	Dominated by scrub-shrub vegetation adjacent to Meadow Valley Wash. Considered jurisdictional.
WT-02	Tamarix ramosissima Agropyron sp.	Inundated in pockets, drainage patterns	Aquic moisture regime (assumed)	Channel is incised below surrounding landscape. Wetland occurs between the channel and the steep sideslopes.	Dominated by scrub-shrub vegetation. Connects to Meadow Valley Wash, and so is considered jurisdictional.
WT-03	Eleagnus angustifolia	Inundated	Aquic moisture regime (assumed)	Occurs in a swale adjacent to the railroad berm. Boundary confined to the lower part of the swale where water ponds.	Depressional topography, dominated by scrub-shrub vegetation. No apparent surface connection to jurisdictional waters of the U.S. and is therefore considered non-jurisdictional.
WT-04	Scirpus acutus Typha sp. Juncus balticus Salix sp. Tamarix ramosissima	Inundated, saturated in upper 12 inches, drainage patterns, FAC- Neutral test	Aquic moisture regime (assumed)	Channel is incised below surrounding landscape. Wetland occurs between the channel and the steep sideslopes.	Dominated by emergent vegetation. Connects to Meadow Valley Wash, and so is considered jurisdictional.
WT-05	Scirpus acutus Typha sp. Salix sp. Tamarix ramosissima	Inundated, saturated in upper 12 inches, drainage patterns, FAC- Neutral test	Aquic moisture regime (assumed)	Channel is incised below surrounding landscape. Wetland occurs in the channel itself and between the channel and the nearly vertical sideslopes.	Dominated by emergent vegetation. Channel is vegetated. Occurs within and adjacent to Meadow Valley Wash, considered jurisdictional.
WT-06	Typha sp. Salix sp Populus fremontii	Inundated, saturated in upper 12 inches, drainage patterns, FAC- Neutral test	Aquic moisture regime (assumed)	Channel is incised below surrounding landscape. Wetland occurs as a fringe adjacent to the channel.	Dominated by scrub-vegetation adjacent to Meadow Valley Wash. Considered jurisdictional.
WT-07	Polypogon monspeliensis Veronica sp.	Algal mats (dried), saturated in upper 12 inches, drainage patterns, FAC- Neutral test	Aquic moisture regime (assumed)	Occurs in a topographic depression between railroad tracks. Sideslopes are steep and the boundaries are distinct.	Depressional topography, dominated by emergent vegetation that has a surface connection to Clover Creek. For this reason it is considered jurisdictional.
WT-08	Unidentified forb	Mud cracks, depressional topography		Occurs in a topographic depression between railroad tracks. Sideslopes are steep and the boundaries are distinct – transition to rabbitbrush.	Depressional topography with evidence of ponding at the base of a railroad berm. A final wetland determination has not been completed for this site, however for the time being it is conservatively being considered a wetland. No surface connection to Clover Creek found and so is



Wetland	Dominant	Hydrology	Hydric Soil		
<u>ID</u>	Vegetation	Indicators	Indicators	Boundary Notes	General Remarks*
<del></del> -					considered non-jurisdictional.
WT-09	Salix sp. Tamarix ramosissima	Saturated in upper 12 inches, drainage patterns in wetlands, FAC- Neutral test	Aquic moisture regime (assumed)	Boundary based on topography and change to barren ground.	This site is considered a problem area and atypical situation due to disturbances by the 2005 flood and subsequent reclamation efforts, also in 2005. At the time of the field survey the site appeared to be developing into a scrub-shrub wetland (numerous seedlings 1-6 inches tall). Occurs adjacent to Clover Creek and so is considered jurisdictional.
WT-10	Eleocharis palustris Salix sp. Tamarix ramosissima Typha sp.	Saturated in upper 12 inches, drainage patterns in wetlands, FAC- Neutral test	Aquic moisture regime (assumed)	Wetland is limited to the bottom of the ditch-like area.	This site is considered a problem area and atypical situation due to disturbances by the 2005 flood and subsequent reclamation efforts, also in 2005. At the time of the field survey the site appeared to be developing into an emergent wetland. Occurs close to Clover Creek and so was considered jurisdictional.
WT-11	Eleocharis palustris Salix sp. Tamarix ramosissima Typha sp. Epilobium sp. Juncus balticus Polypogon monspeliensis	Saturated in upper 12 inches, drainage patterns in wetlands, FAC- Neutral test	Aquic moisture regime (assumed), sulfidic odor	Boundary is complex and requires more thorough investigation if the site will be impacted.	A spring occurs at this location which flows to Clover Creek. Site is dominated by scrub-shrub vegetation. Considered jurisdictional.
WT-12	Juncus balticus Mimulus guttatus Juncus bufonius Hordeum jubatum	Inundated, saturated in upper 12 inches, water marks, sediment deposits, FAC- Neutral test	Low chroma	Boundary follows the edge of the pond and a shift to rabbitbrush.	A sparsely vegetated stock pond with algae growing in it. Baltic rush only occurs at the pond inlet, the rest of the pond and adjacent fringe are sparsely vegetated, perhaps due to livestock use and/or varying water levels. Considered to be an atypical situation because of man-made conditions and low vegetative cover. Pond was approximately 2 feet deep during the time of the survey. No surface connection to jurisdictional waters of the U.S. found, and so is considered non-jurisdictional.
WT-13	Juncus balticus Mimulus guttatus Juncus bufonius Hordeum jubatum Eleocharis palustris Veronica americana Ranunculus sp.	Inundated, saturated in upper 12 inches, water marks, sediment deposits, drainage patterns, FAC- Neutral test	Aquic moisture regime (assumed)	Boundary is distinct and is based on topographic shift and change to upland plant species.	Improved spring and channel that lead to the stock pond (WT-12). No surface connection to jurisdictional waters of the U.S. found, and so is considered non-jurisdictional. Considered to be an atypical situation because of man-made conditions
WT-14	Juncus balticus Distichlis spicata Carex sp. Mimulus guttatus Poa sp.	Saturated in upper 12 inches, drainage patterns	Low Chroma	Boundary is based on a topographic shift and change to upland plant species.	Slope seep area. No surface connection to jurisdictional waters of the U.S. found, and so is considered non-jurisdictional. Considered to be an atypical situation because of man-made conditions



Wetland // ID	Dominant Vegetation	Hydrology Indicators	Hydric Soil Indicators	[8] [9] M. [4] M	General Remarks*
WT-15	Distichlis spicata Chrysothamnus nauseosus	Inundated, saturated in upper 12 inches, drainage patterns	Sulfidic odor, low chroma with mottles	Boundary based on soil saturation conditions. Saturated area contained a minimal salt crust, whereas unsaturated area	Small seep/spring. Depressional topography. No connection to the tributary system observed, and so is considered non-jurisdictional.

Discussions of jurisdiction are preliminary. The Corps of Engineers will make the final jurisdictional determinations.

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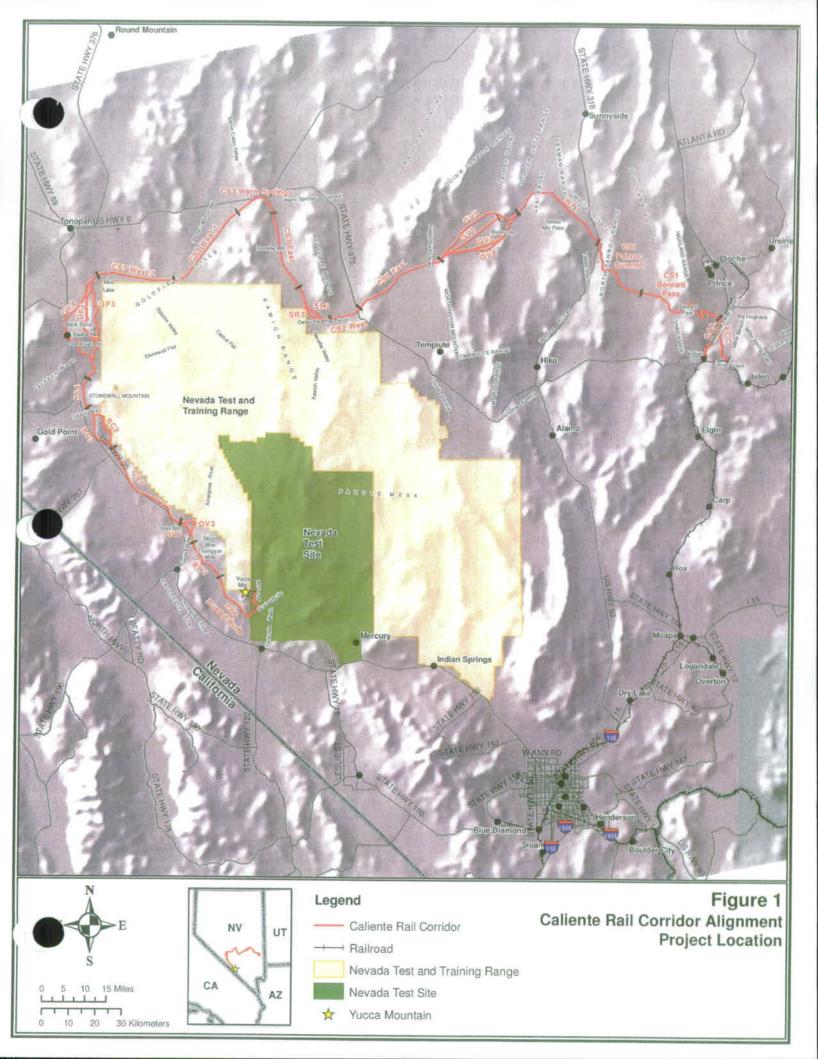
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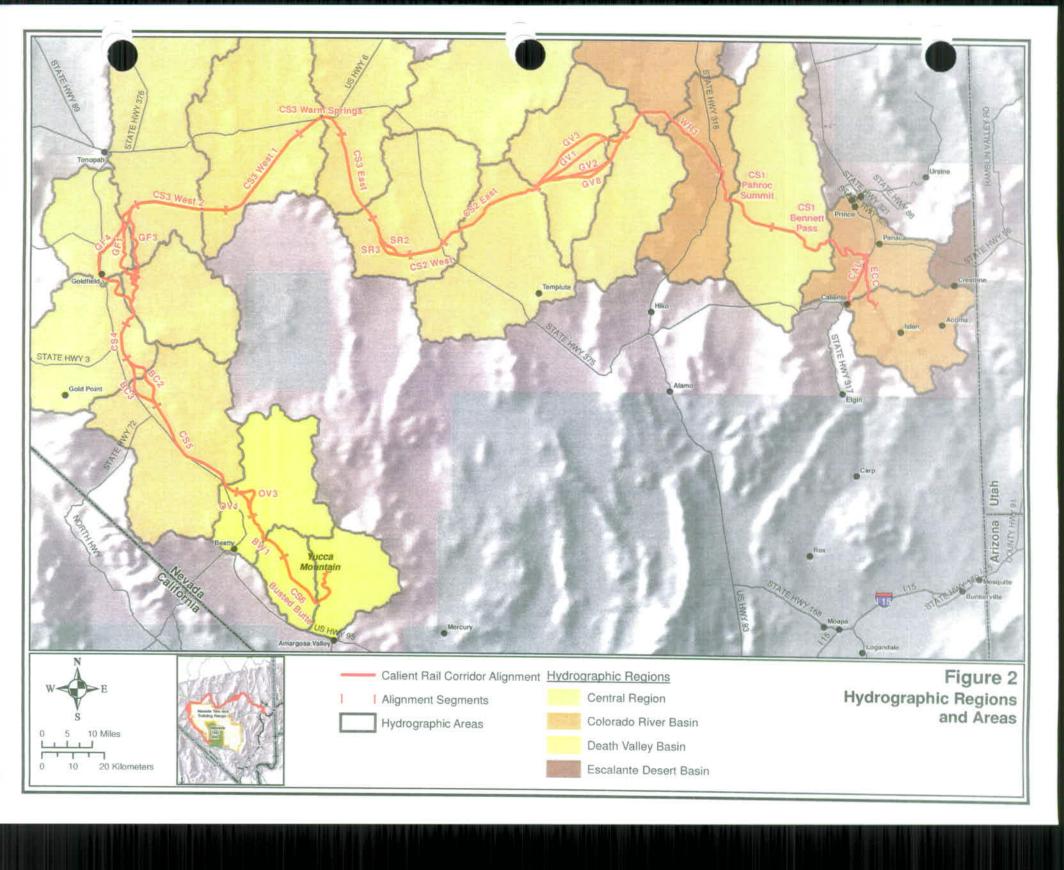
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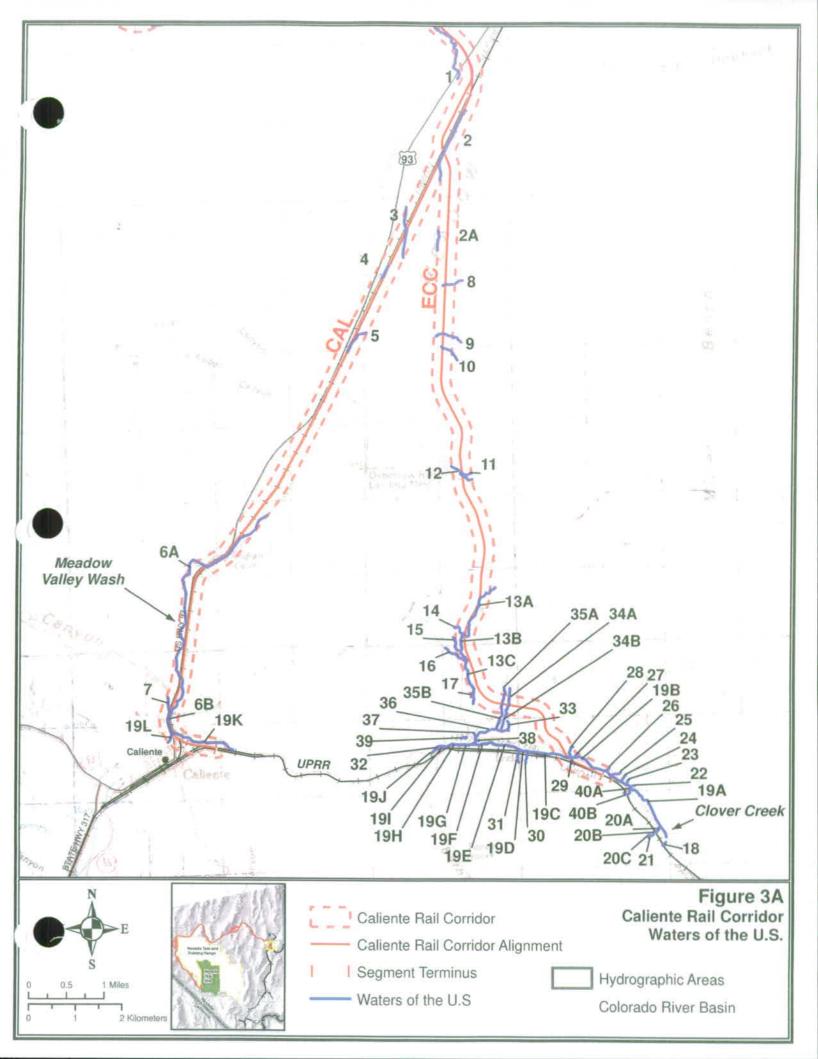
## 6.0 CHANGE HISTORY

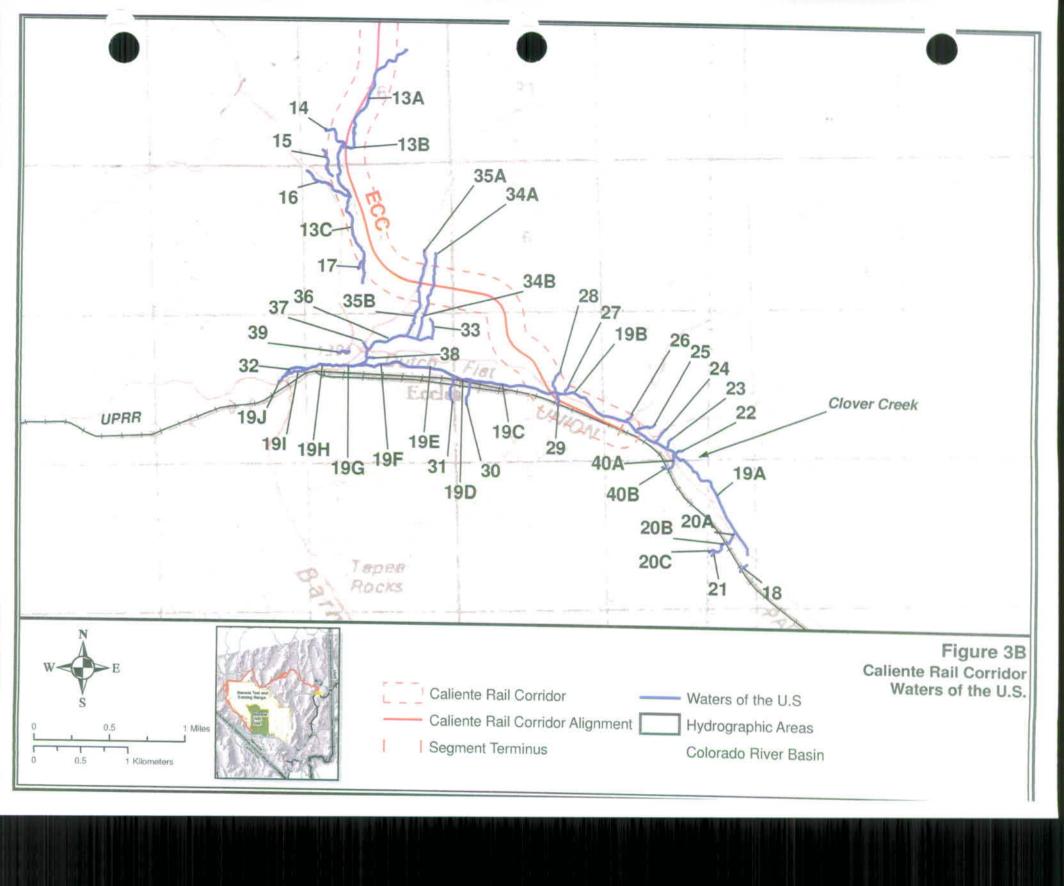
Revision Number	<u>Date</u>	Description of Change
03	November 13, 2006	Revision includes the addition of 2 wash lines (WOUS 65 and WOUS 68) south of Beatty Wash.
02	September 12, 2006	Revision includes additional analysis in the Caliente and White River areas
01	April 3, 2006	Revision includes additional analysis of selected areas along the corridor including Garden Valley (GV8) Alignment
00	June 27, 2005	Initial issue

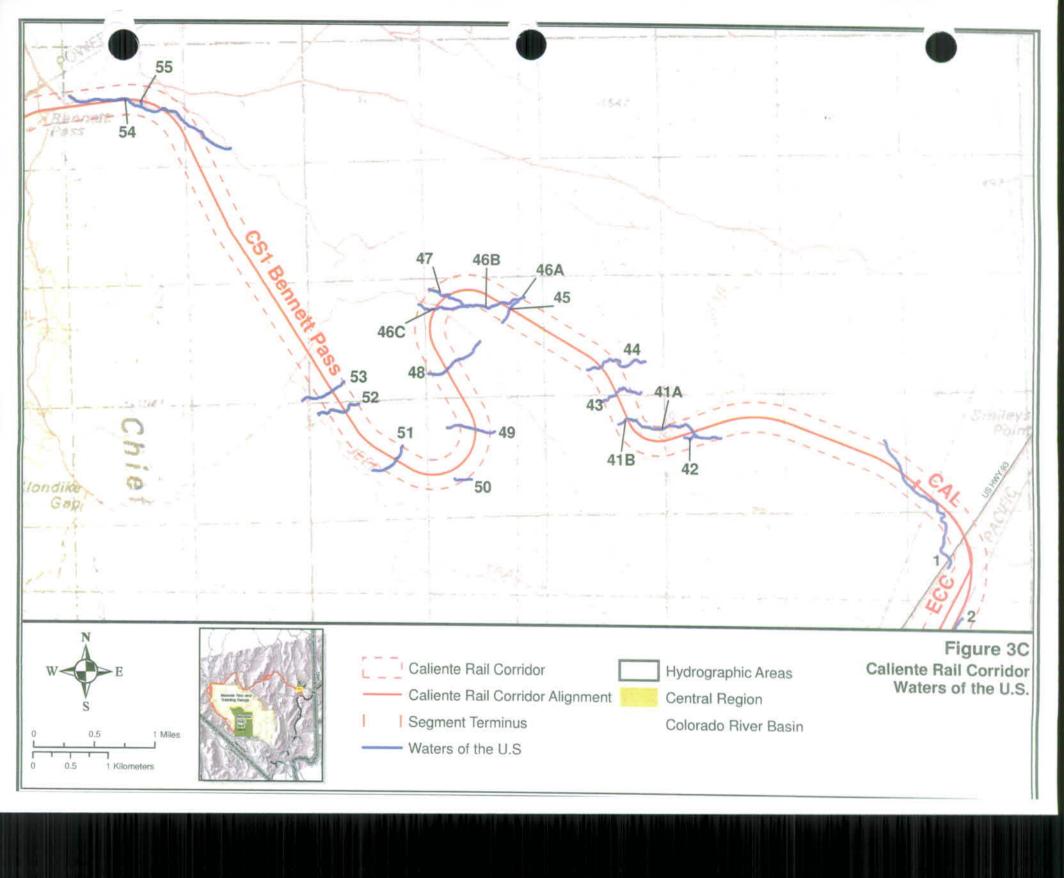
Appendix A
Figures

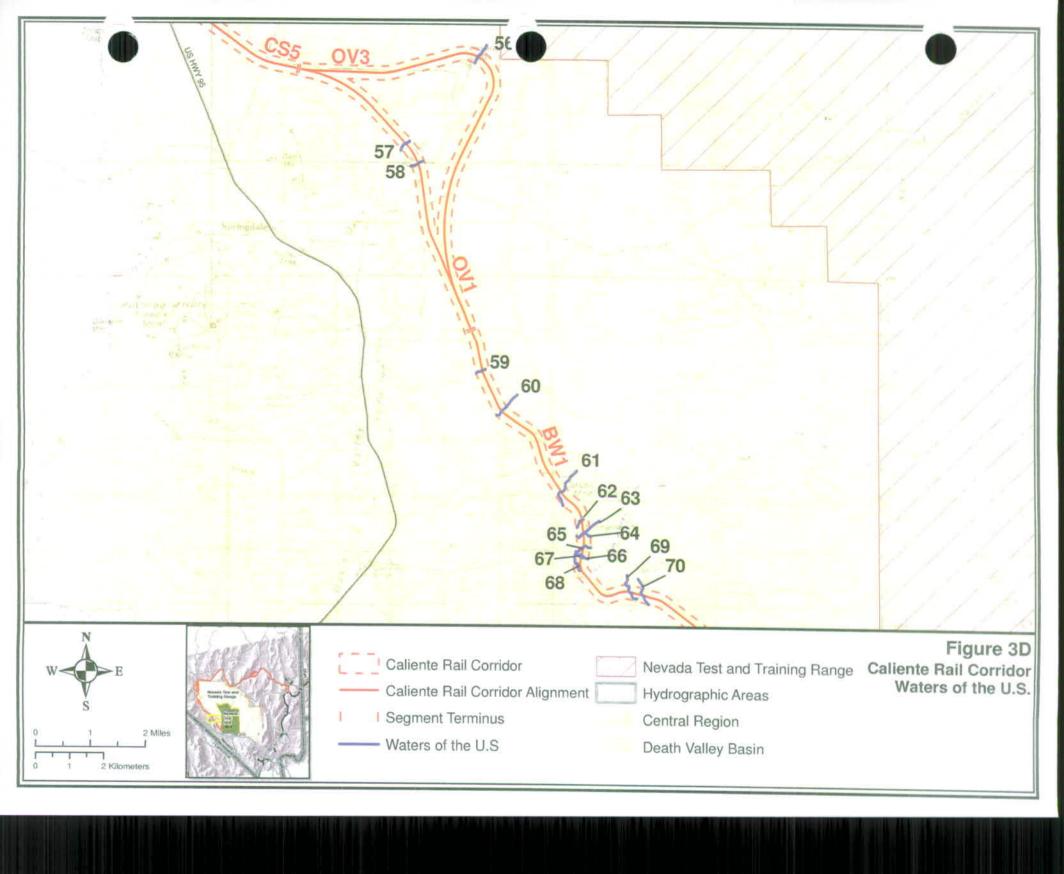






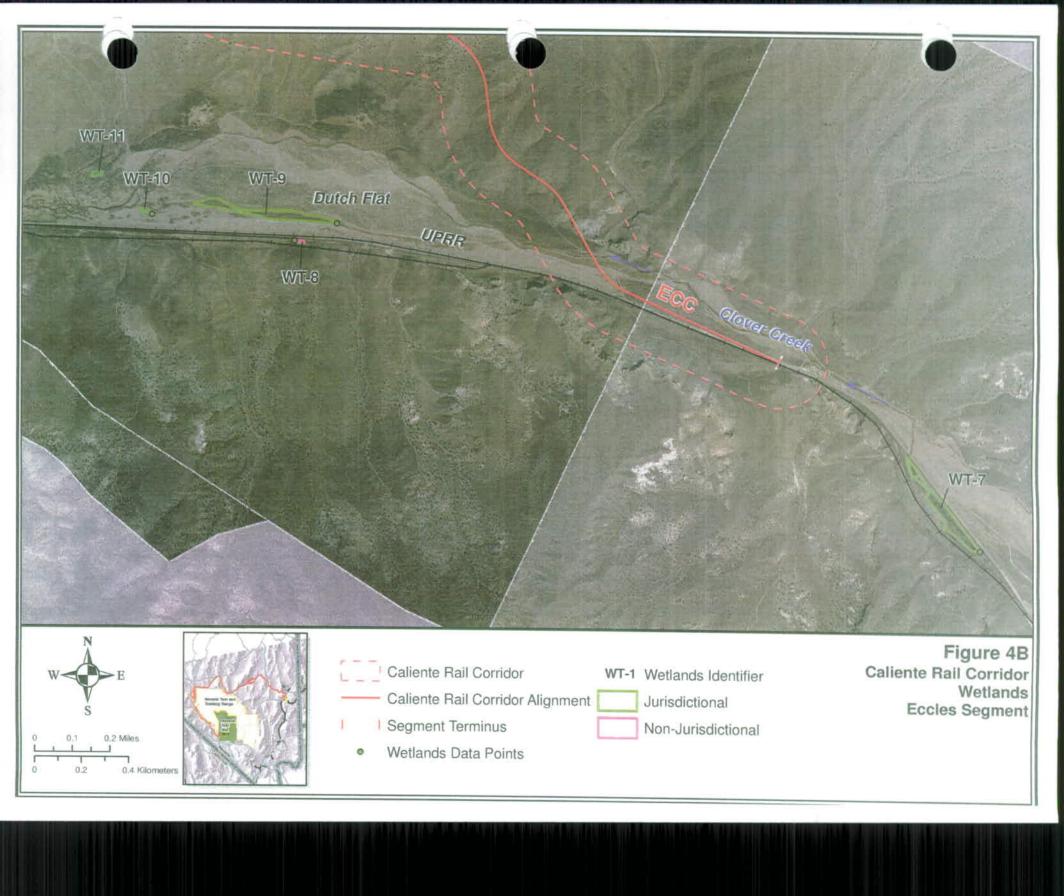


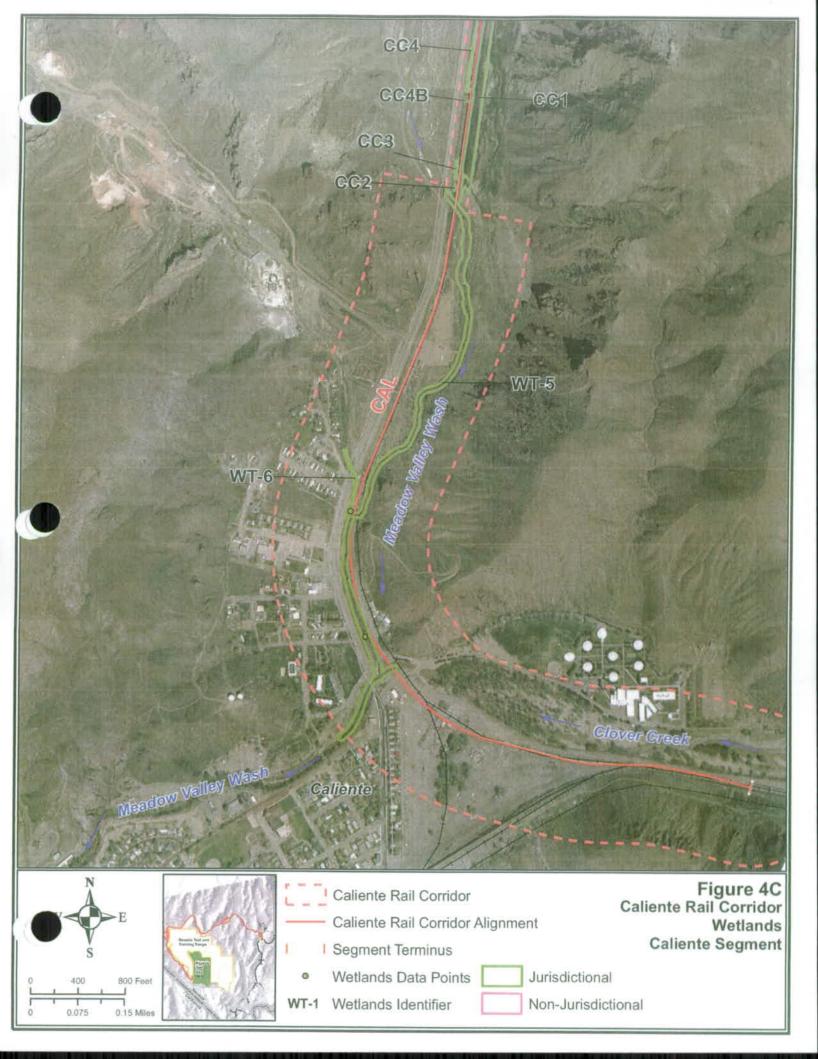


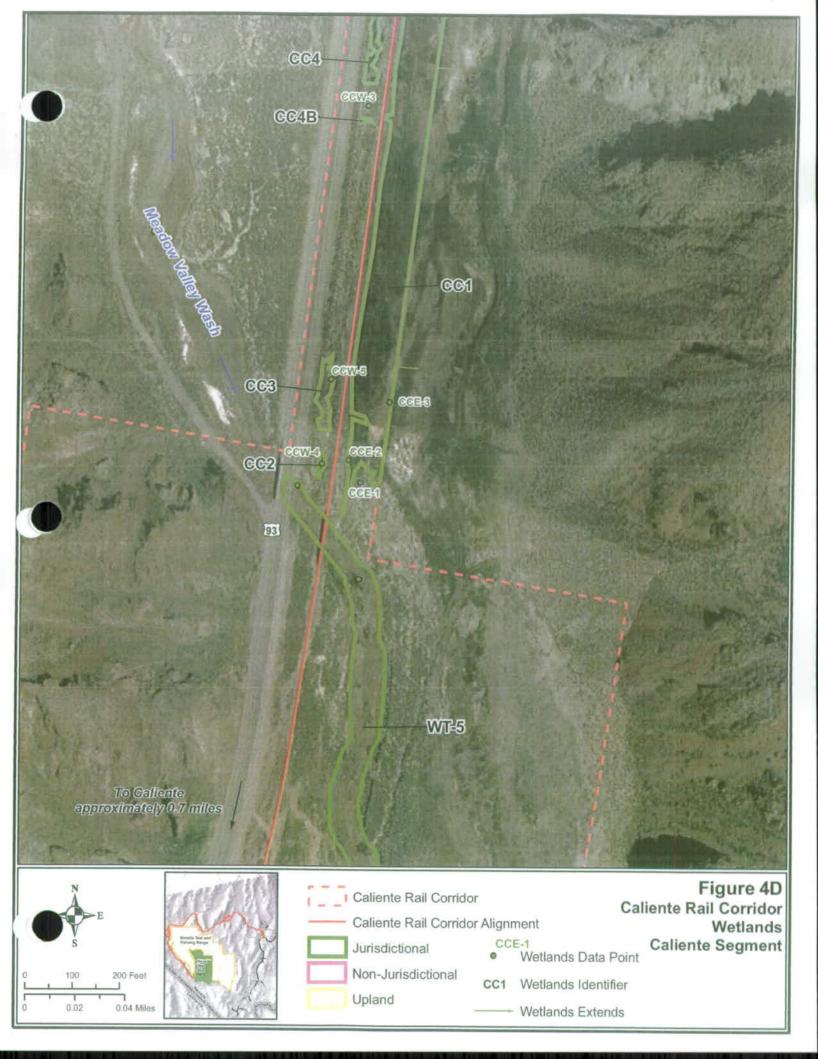


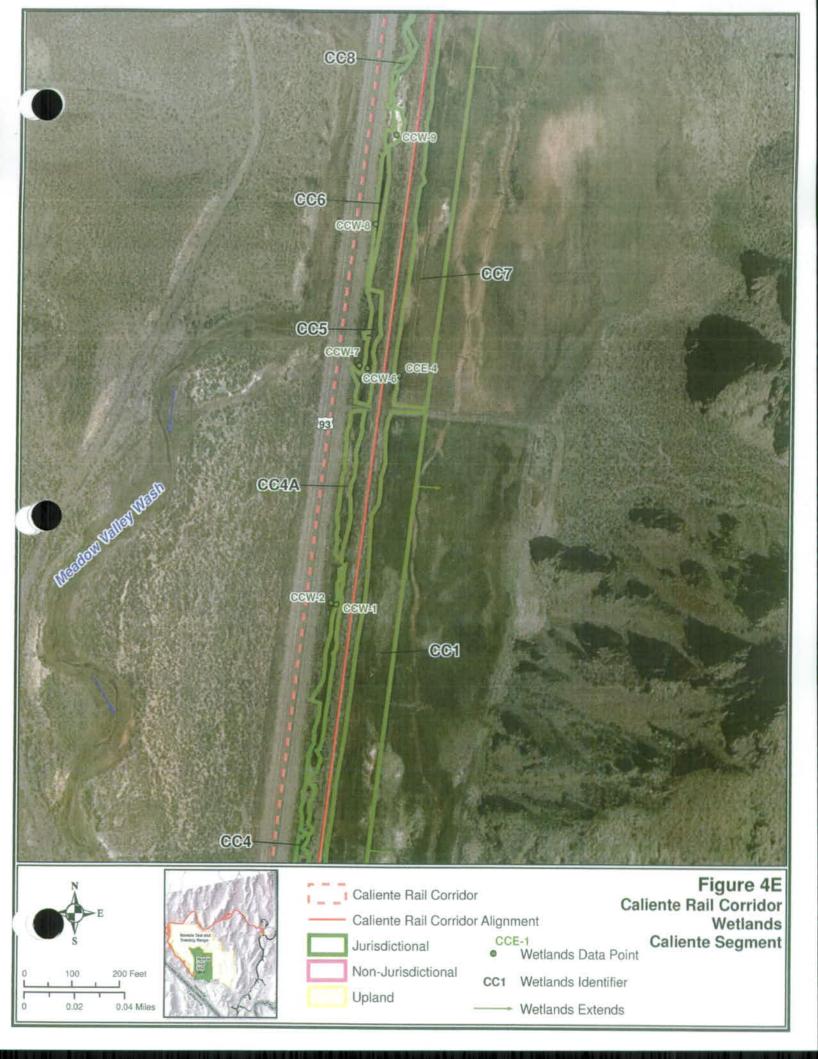


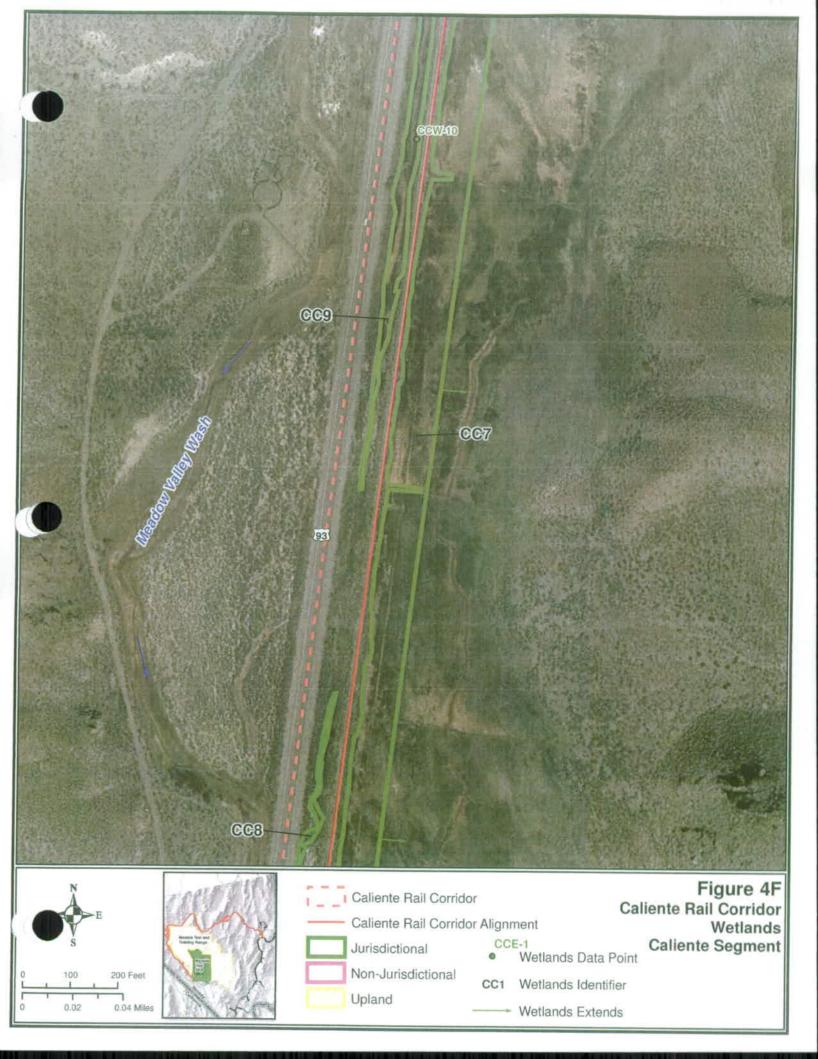


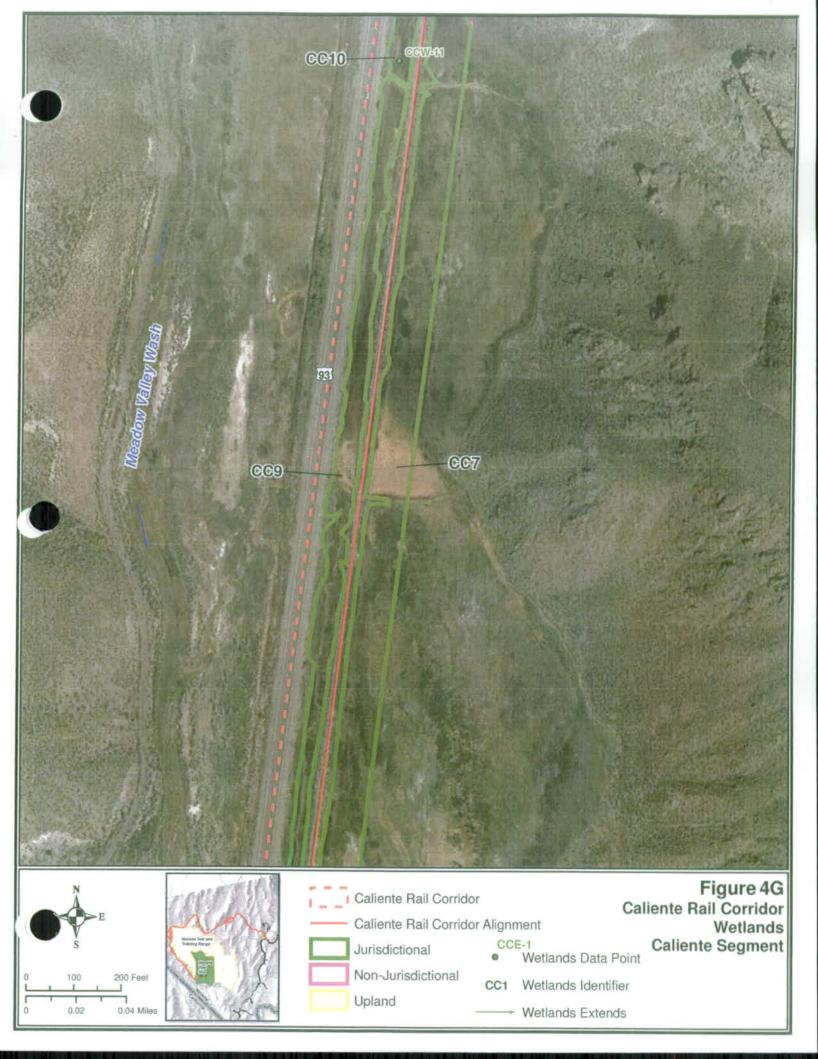




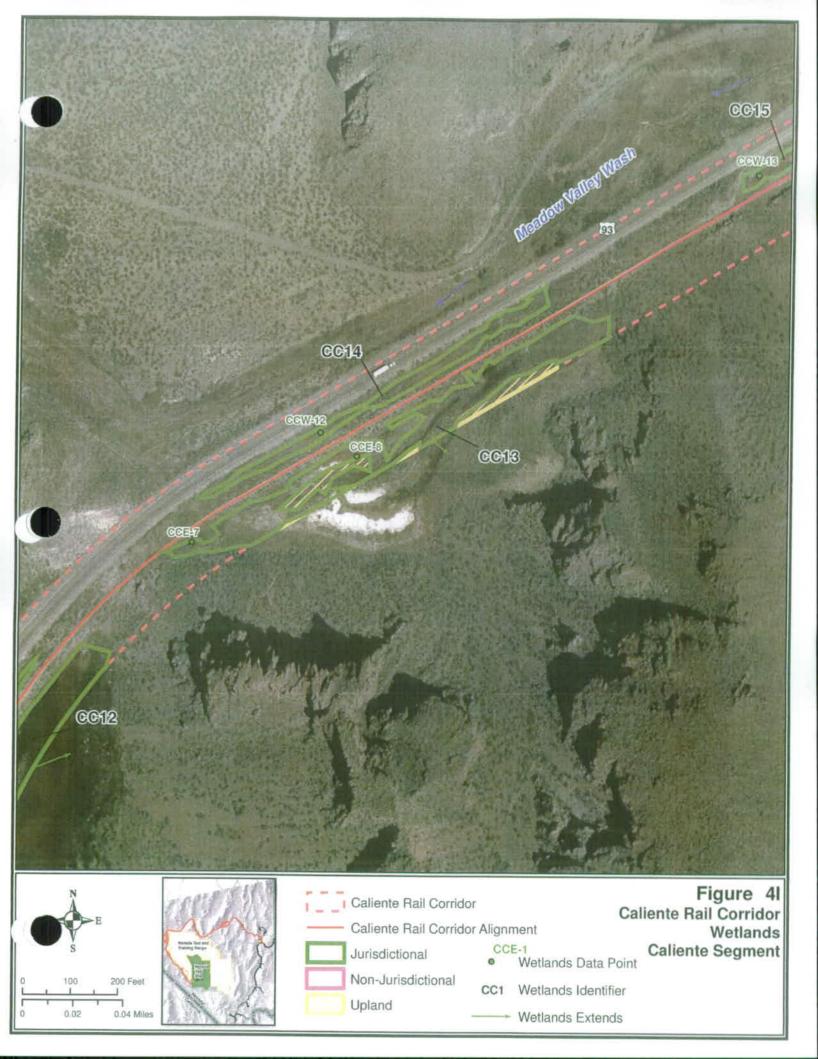


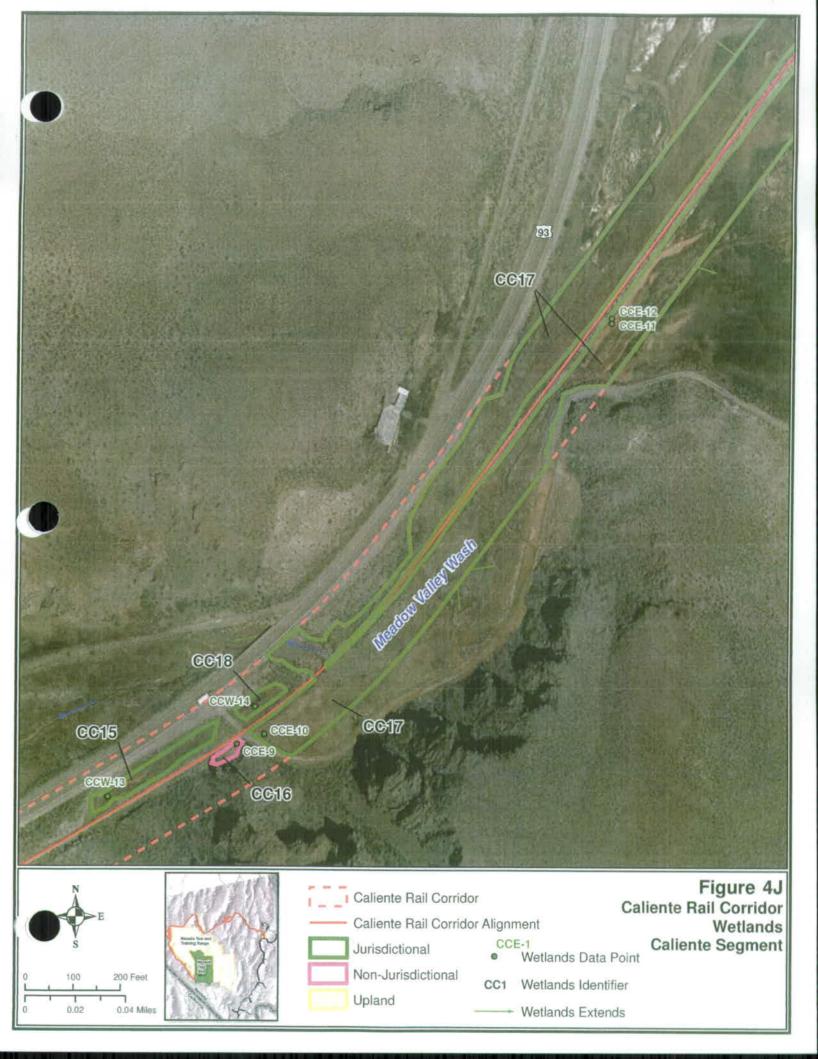


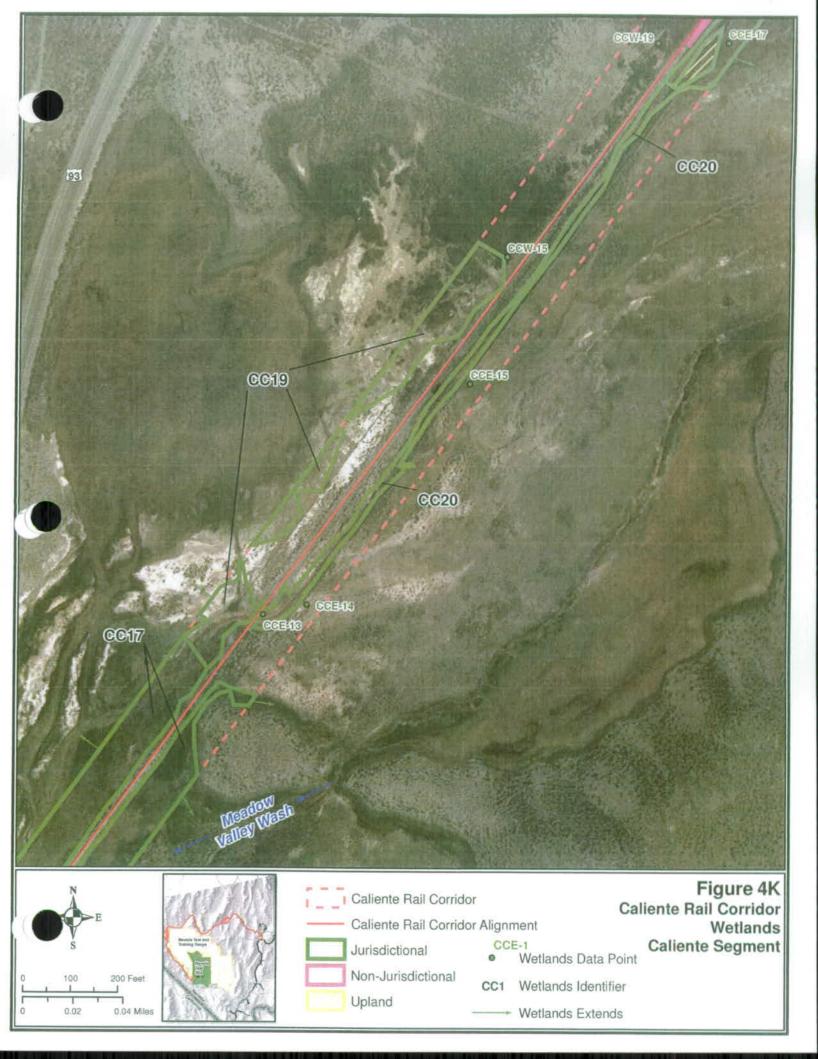








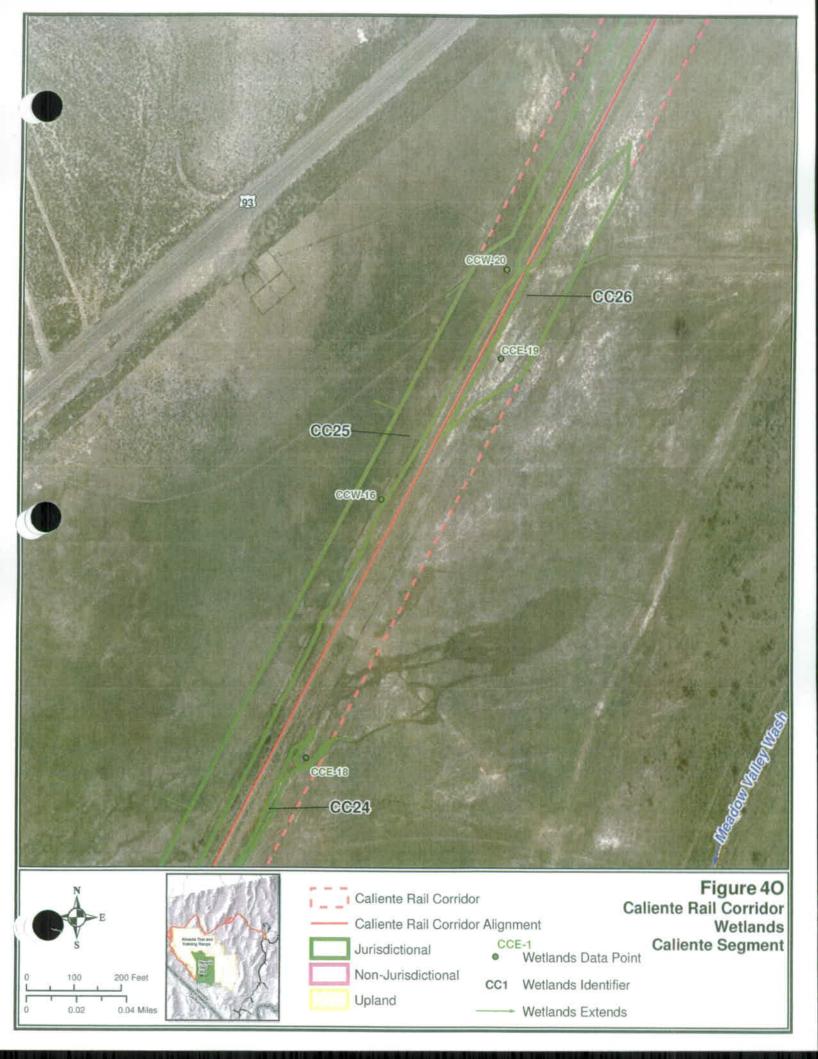






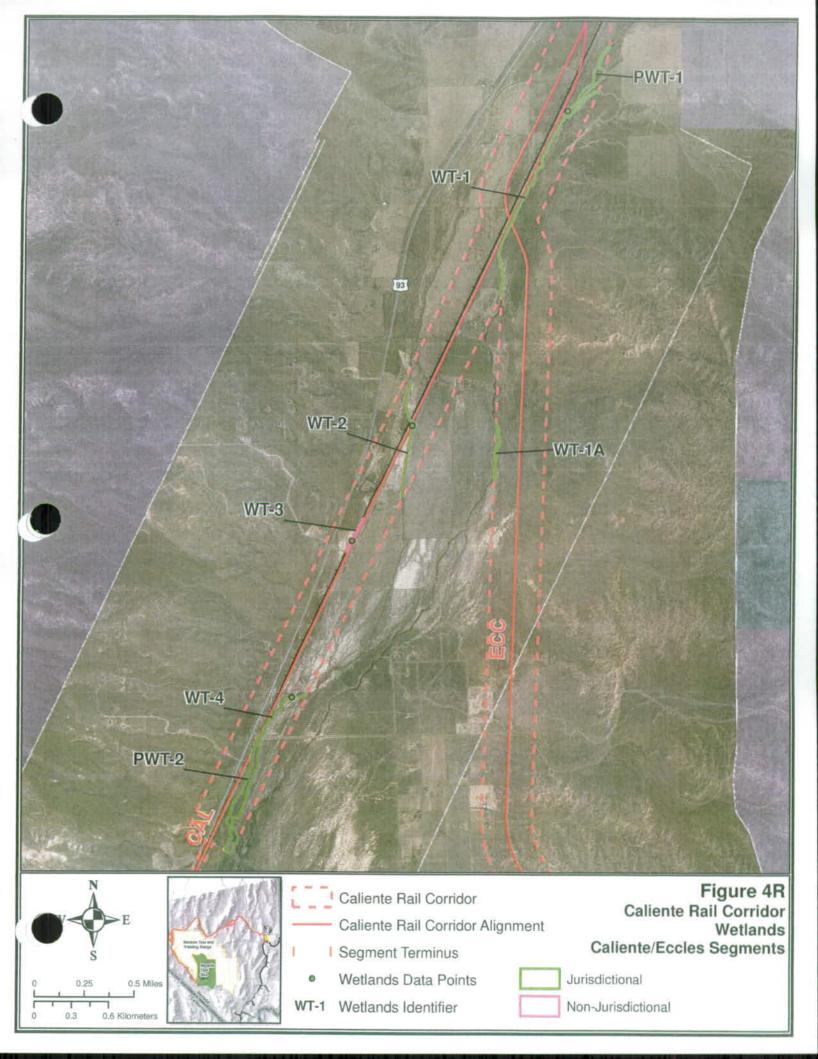


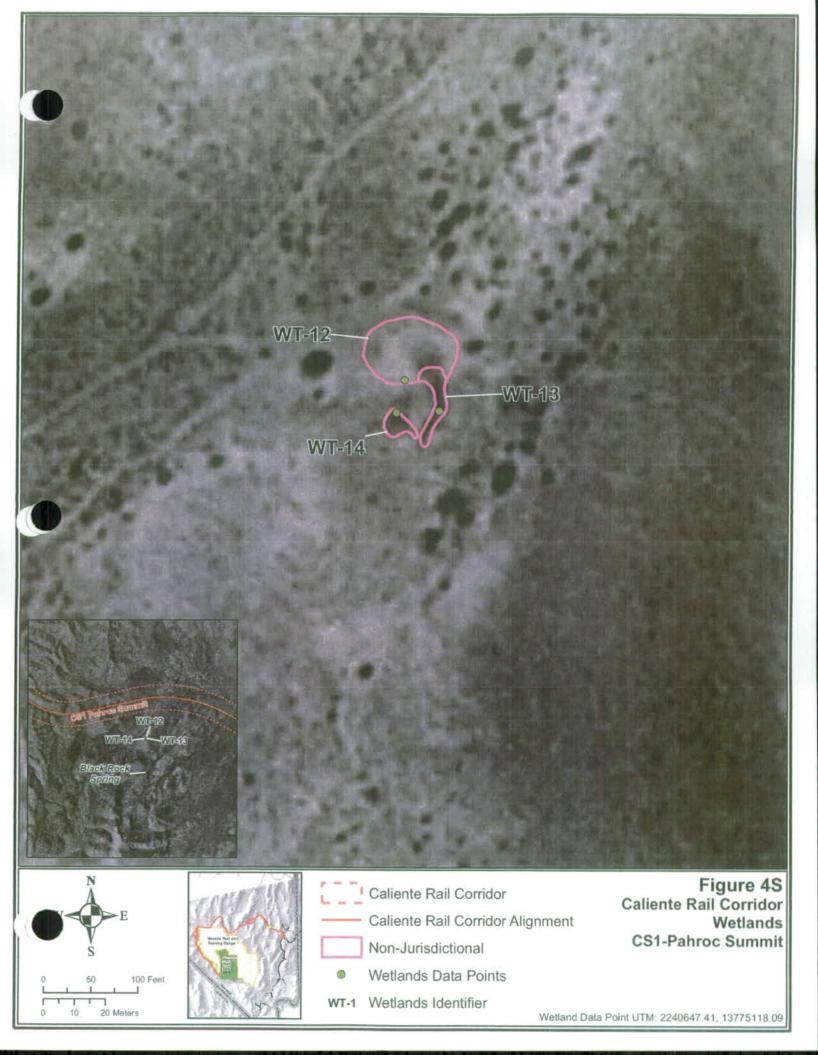


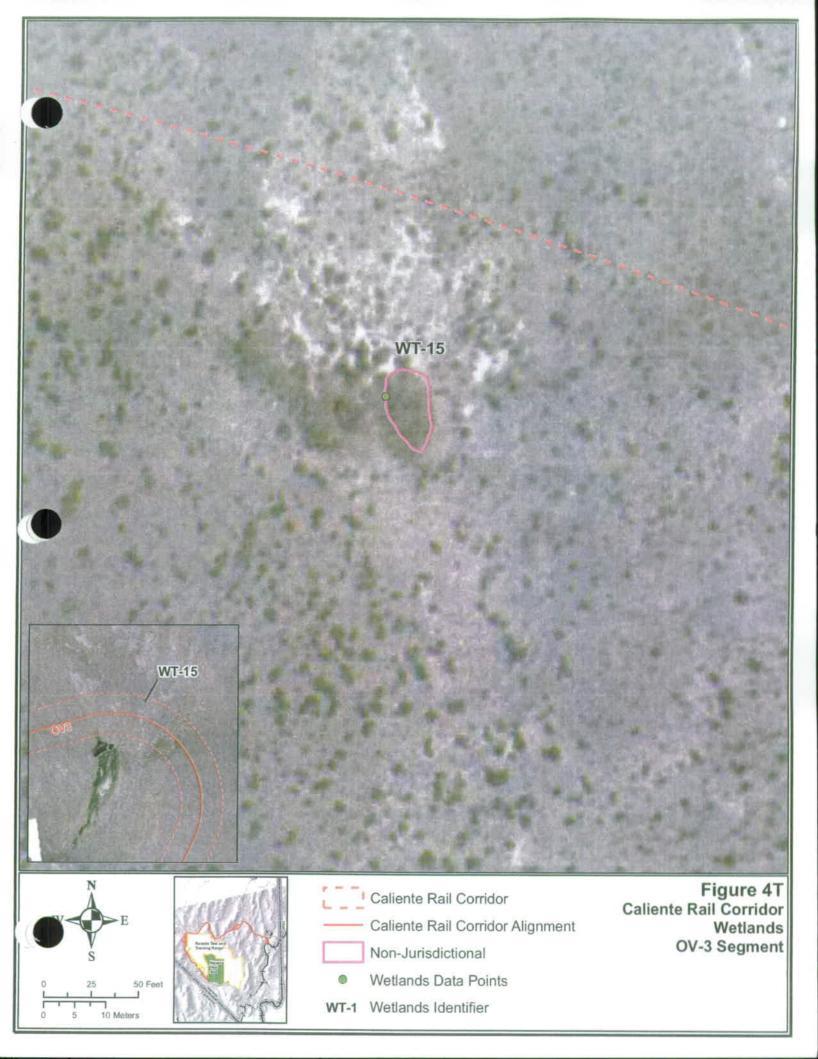












**Appendix B** *Example Site Photographs* 



Photo 1. Photograph of WOUS 19D showing the re-shaped channel on Clover Creek.



**Photo 2.** Photograph of WOUS 28 showing the large drainage entering Clover Creek from the north.



Photo 3. Photograph of WOUS 34B looking south.



Photo 4. Photograph of Clover Creek looking east at WOUS 19J.

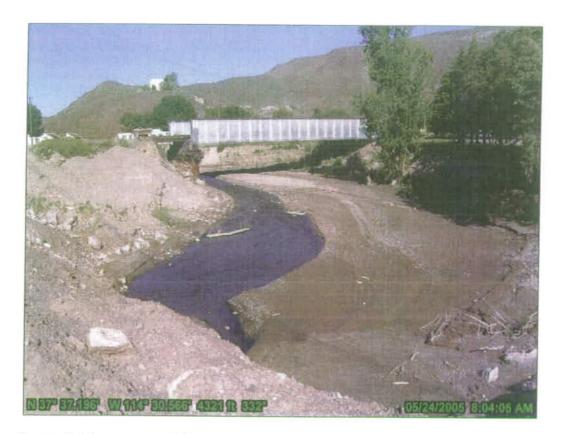


Photo 5. Photograph of Clover Creek looking west at WOUS 19K east of US 93.



Photo 6. Photograph of main Meadow Valley Wash channel (riparian corridor) looking south on WOUS 2.

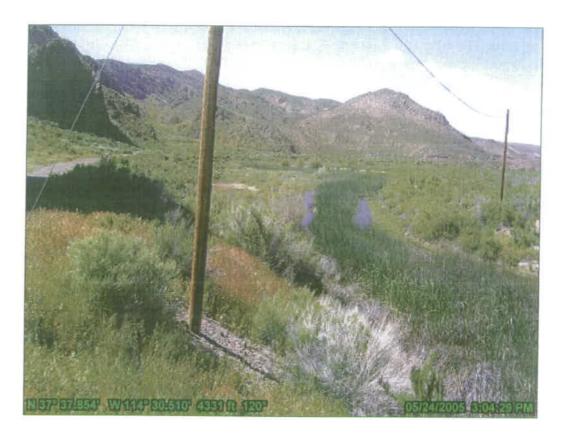


Photo 7. Photograph of Meadow Valley Wash riparian corridor along WOUS 6A and WT-5 adjacent wetlands.



Photo 8. Photograph of a non-jurisdictional ephemeral wash in the White River area.

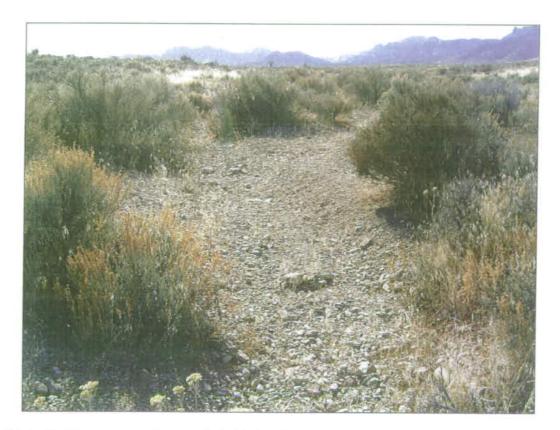


Photo 9. Photograph of a non-jurisdictional ephemeral wash in the White River area.



Photo 10. Looking south at the incised channel and adjacent wetland WT-1.



Photo 11. Looking southeast from railroad bridge at wetland WT-2.



Photo 12. Looking north along the western side of wetland WT-3.



Photo 13. Looking north at wetland WT-4.



Photo 14. Photograph of WT-9 showing wetland fringe next to the Clover Creek channel.



Photo 15. Looking east northeast at wetland WT-10. Area had been disturbed by channel work in 2005.



Photo 16. Looking west at upper end of WT-11.

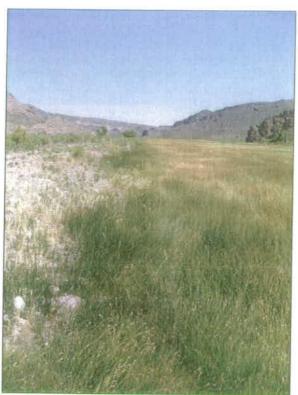


Photo 17. Wetland CC-1. Looking north along the western boundary of wetland CC-1. Historic railroad bed on left side of photo.



Photo 18. Wetland CC-1. Deep mud cracks observed at wetland CC-1.

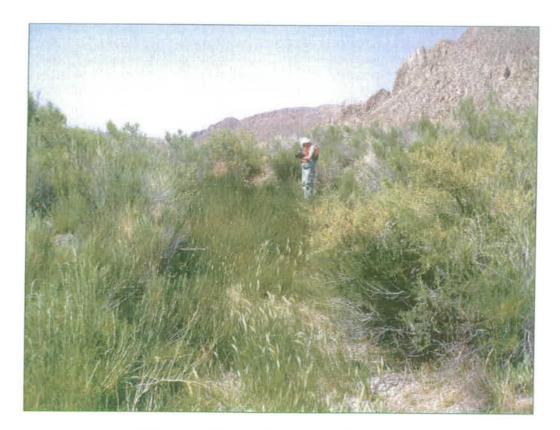


Photo 19. Wetland CC-2. Looking north.

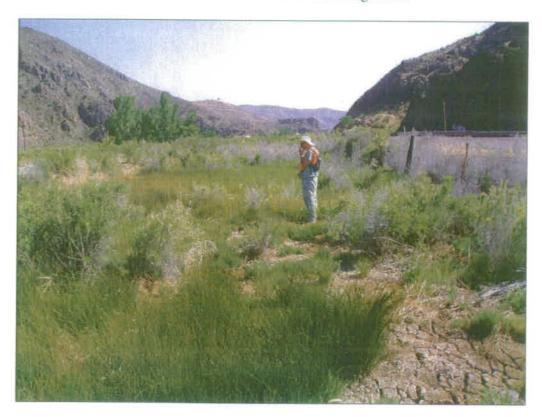


Photo 20. Wetland CC-3. Looking south.



Photo 21. Wetland CC-4. Looking south; historic railroad bed on left side of photo.



**Photo 22.** Wetland CC-5. Looking west at CCW-6 (at shovel); note the dried, white algal mats in the center portion of the photo that is indicative of ponded water.

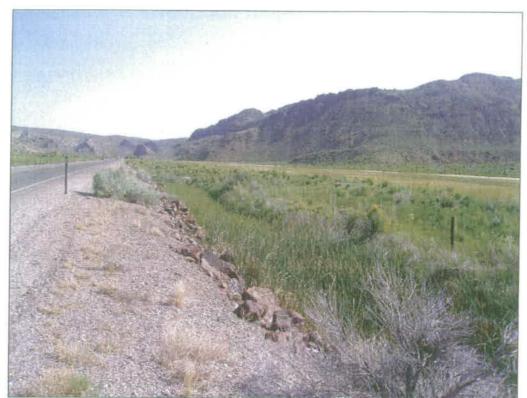


Photo 23. Wetland CC-6. Looking north. Wetland CC-6 is located at the base of the highway sideslope. Wetland CC-7 can be seen between the railroad bed and the hillslopes on the right side of the photo.



Photo 24. CC-7. Looking north along the western boundary. Spikerush in foreground. Historic railroad bed on left side of photo.



Photo 25. Wetland CC-8. Looking north at the southern end of CC-8 at sample point CCW-9.



Photo 26. Wetland CC-9. Looking north at sample point CCW-10 (at shovel). Historic railroad bed on right side of photo.



Photo 27. Wetland CC-10. Looking north at the southern end of wetland CC-10 and sample point CCW-10 (at shovel). Historic railroad bed on right side of photo.



Photo 28. Wetland CC-11. Looking north.

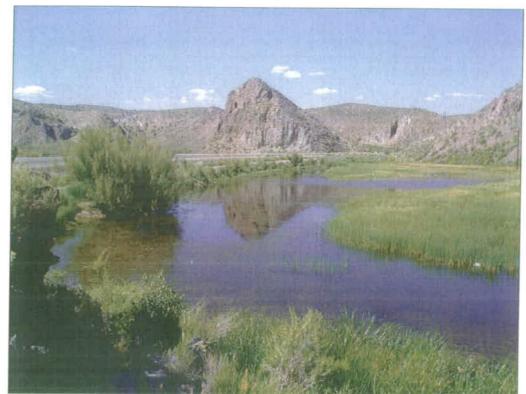


Photo 29. Wetland CC-12. Looking north at the southern end and western boundary. Historic railroad bed on left side of photo bordering the pond.



Photo 30. Wetland CC-13. Looking southwest at sample point CCE-8. Historic railroad bed on right side of photo.



Photo 31. Wetland CC-14. Looking northeast.



Photo 32. Wetland CC-15. Looking northeast at southern end of wetland and sample point CCW-13 (at shovel). Historic railroad bed on right side of photo.



Photo 33. Wetland CC-16. Looking southwest.



Photo 34. Wetland CC-17. Looking northeast at southern end of wetland from sample point CCE-10. Historic railroad bed on left side of photo.



Photo 35. Wetland CC-17. Looking southwest from sample points CCE-11 and 12. Historic railroad bed on right side of photo.



Photo 36. Wetland CC-17. Looking southwest along the west side of the old railroad bed and at the canyon mouth.



Photo 37. Wetland CC-18. Looking northeast.



Photo 38. Wetland CC-20. Looking southwest at sample point (at shovel) CCE-13. Historic railroad bed/trestle on right side of photo.



Photo 39. Wetland CC-20. Looking north from sample point CCE-13.

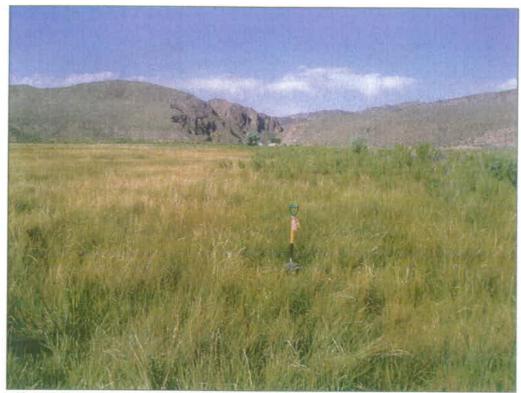


Photo 40. Wetland CC-21. Looking south at the southern end of wetland and sample point CCE-17.



Photo 41. Wetland CC-21. Looking south at the central portion of wetland and sample point CCW-19 (at shovel). The dark green at the base of the hills is hardstem bulrush.

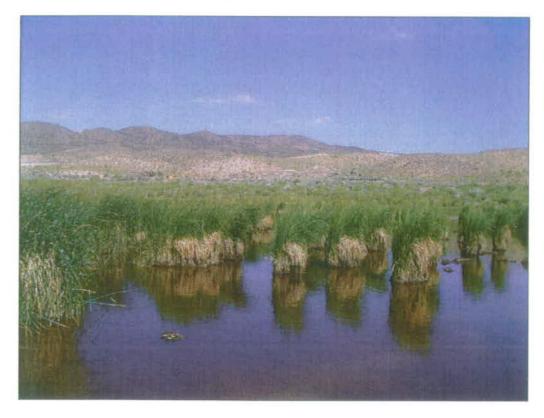


Photo 42. Wetland CC-21. Bulrush marsh seen on Figure 5I of the report.



Photo 43. Wetland CC-21. Looking north along the western boundary. The marsh/pond shown on Figure 5J of the report is located over the berm on the left side of the photo. The railroad bed/alignment is on the right side of the photo on the other side of the barbwire fence.



**Photo 44.** Wetland CC-22. Looking southwest. The wetland is a sliver in the center portion of the photo.



**Photo 45.** Wetland CC-23. The spring is the mound found directly behind the shovel in the photo. The shovel marks sample point CCW-18.



Photo 46. Wetland CC-24. Looking north at the southern end of wetland near sample point CCE-16. Cattle have trampled and degraded this wetland.



Photo 47. Wetland CC-25. Looking south at sample point CCW-17. Railroad bed is on the left side of the photo. Historic railroad bed on left side of photo.



Photo 48. Wetland CC-25. Looking northeast at the northern/western boundary of wetland (see Figure 5L in the report).



Photo 49. Wetland CC-26. Looking north at sample point CCE-19. Historic railroad bed on left side of photo.

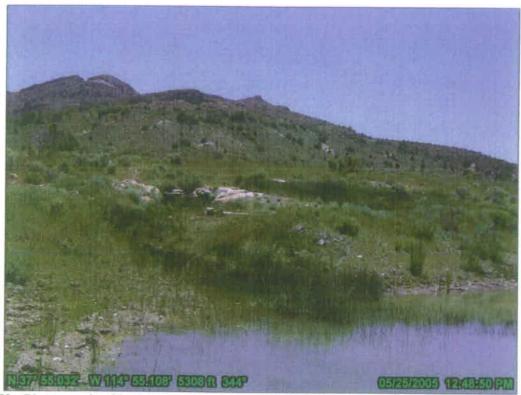


Photo 50. Photograph of isolated wetland channel WT-13 and a portion of the stock pond (WT-12). The other isolated wetland WT-14 is visible on the slope.

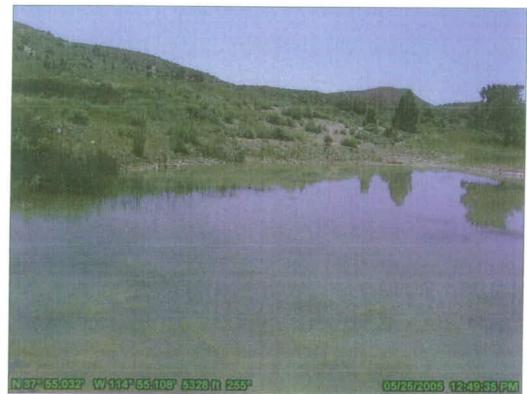


Photo 51. Photograph showing the stock water pond (WT-12) and WT-14 on the slope behind the pond.

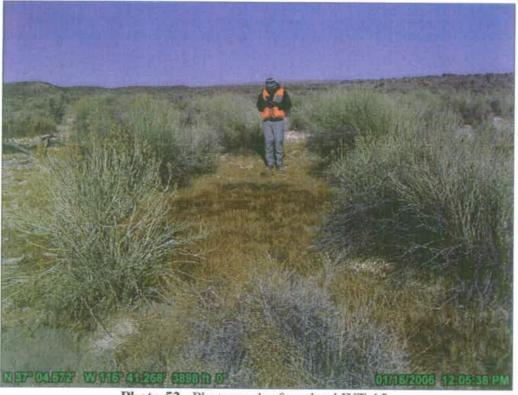


Photo 52. Photograph of wetland WT-15.

**PBS**J



Photo 53. Photograph of wetland WT-15 showing standing water.

Appendix C
Wetland data forms

### DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE We	tlands De	lineation M	/lanual)		
Project/Site: Yucca Mountain Rail Corridor EIS/			Date:		
Meadow Valley Wash – Caliente Alignmen	nt			_01/13/2006	
Applicant/Owner: Bechtel-SAIC Investigator: PBS&J (RRM & LB)		<del></del>	County:	Lincoln	
	· · · · · · · · · · · · · · · · · · ·		State:	Nevada	
Do Normal Circumstances exist on the site:	X Yes	No	Communi	ity ID:	
Is the site significantly disturbed (Atypical Situation)?	Yes	X No	Transect	ID:	
Is the area a potential Problem Area?:	Yes	X No	Plot ID:	WT-1	
(If needed, explain on reverse.)					
NOTE: Located at the northern end of the Caliente alignment	nt where Me	adow Valle	Wash parall	els the old railro	ad grade. WT-PT-
VEGETATION State Of the Control of t					
Dominant Plant Species Stratum Indicator  1 Salix sp. (Salix speedding): 2 Salix sp. (Salix sp		Dominant I	Plant Species	Stratum	Indicator
2 The state of the	$- \mid \frac{9}{10} \mid$	·- <u></u> ·- <u></u>			
Z <u>Tamarix ramosissima</u> S FACW	$-   \frac{10}{44}$				
	$-\begin{vmatrix} 11\\10\end{vmatrix}$	<del></del>			
	$- \begin{vmatrix} 12 \\ 13 \end{vmatrix}$				
	-   13 -				<del></del>
7	-   17 -				
3	- la -				
Percent of Dominant Species that are OBL, FACW, or FA	-   -		2/2 = 100		
IYDROLOGY					
Recorded Data (Describe in Remarks):	Wetla	nd Hydrolog	y Indicators	•	<u> </u>
Stream, Lake, or Tide Gauge		Primary In			
Aerial Photographs Other			nundated		
X No Recorded Data Available		— S	aturated in t Vater Marks	Jpper 12 Inches	<b>3</b>
			rift Lines		
eld Observations:			ediment Dep	oosits	
Double of Conference NA		<u>X</u> D	rainage Patt	erns in Wetland	ls
Depth of Surface Water: (in.)		Secondary	Indicators (	2 or more requi	red):
Depth to Free Water in Pit: (in.)		v	xidized Root /ater-Stained	t Channels in U _l I Leaves	oper 12 Inches
Depth to Saturated Soil: (in.)	ŀ		ocal Soil Sur AC-Neutral T		
(\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\				in Remarks)	
emarks: The wash is incised well below the surrounding jacent to both sides of the channel. The bench is indicated to be supported to be suppo	ative of bai	The wetland	fringe occur	rs on a deposition	الماسينا سقسسسان
1.0					

SOILS									
Map Un	it Name	Pd – Pahranag	at silt loam, st	rongly saline	Drainage Class:	Somewhat	poorly	draine	<u>:d</u>
	and Phase):				Field Observations	O	Voc	v	No
Taxonor	my (Subgrou	p): Fluventic hapla	quolls		Confirm Mapped Ty	pe?	Yes -	<u>X</u>	No
Drofile	Description	•							
Depth	<u>Description</u>	Matrix Color	Mottle Cold	ors   N	/lottle	Texture,	Concret	ions,	
inches	Horizon	(Munsell Moist)	(Munsell M	1	bundance/Contrast	Structure	, etc.	_,	
	iş.					į			
	,								
		,		İ					
				1					
						ļ			
				İ					
	l								
Hydric	Soil Indicat	ors:	·						
,		istosol			ncretions			.d., O.	:la
		istic Epipedon		Hig	h Organic Content in s	surface Laye	ir in Sar	iay 50	IIS
		ulfidic Odor			anic Streaking in Sand ed on Local Hydric So				
		quic Moisture Regime educing Conditions			ed on Local Hydric oc ed on National Hydric				
		leyed or Low-Chroma	Colors		er (Explain in Remark				
		•			, -		tion we	tland	—(
Remark	(s: No soil p	it excavated, aquic mo and distinct boundarie	sisture regime	assumed due m of the cliffs	e to a prevalence of FA	ACVV Vegeta	ulon, we	lianu	,,,
ηyarolog	gy maicators	and distinct boundarie	s at the botto	in or the chira	•				
WETLA	AND DETE	RMINATION			<u> </u>				
Hydroph	ytic Vegetatio	n Present? X Yes	s No						
	Hydrology Pr		No						
Hydric S	oils Present?	X Yes	s No	Is this Sampli	ng Point Within a Wetlan	nd? $X$	_ Yes _		No
	L. The	etland is classified as	a a polyetrine	sorub ehru	h wetland dominated	hv willows	s and ta	maris	
Remar	KS: The We	etiand is classified as	s a palustrine hank floodine	n of Meadov	v Vallev Wash, as w	ell as water	suppli	ed by	its
alluvial	a nyurology aquifor A	n aquic moisture reg	ime was ass	umed to occ	ur during the growin	g season.		•	
alluviai	aquiler. A	in aquito infololoro rog			5 - 5	-			
						Approve	d by HO	USACE	2/92

#### DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

			•		
Project/Site: Yucca Mountain Rail Corridor EIS/					
Meadow Valley Wash - Caliente Alignment			Date:	01/13/2006	
Applicant/Owner: Bechtel-SAIC			County:	Lincoln	
Investigator: PBS&J (RRM & LB)			State:	Nevada	
Do Normal Circumstances exist on the site:	<b>T</b> 7  \/				
Is the site significantly disturbed (Atypical Situation)?	X Yes	No No	Commun	•	
	Yes <u>X</u>	_	Transect	ID:	
Is the area a potential Problem Area?:	Yes <u>X</u>	_ No	Plot ID:	WT-2	
(If needed, explain on reverse.)				<del></del>	
NOTE: Site occurs in a swale oriented NNW to SSE that is crewash WT-PT-55	ossed by an old i	ailroad	bridge, and	which connects to	Meadow Valle
Wash. WT-PT-55			•		
VEGETATION					
Dominant Plant Species Stratum Indicator	Dom	post Di	ant Canada		
1 7	-	mant Pi	ant Species	Stratum	Indicator
2 m	-   9				
Wheatgrass sp. H FAC (?)	_   10				
<u> </u>	-   11				· · · · · · · · · · · · · · · · · · ·
5	_   12				
	13				
6	14				· · · · · · · · · · · · · · · · · · ·
7	15				
8	16				
ercent of Dominant Species that are OBL, FACW, or FAC	C (avalved) = 5		1/2 = 50		
scrub-shrub south of the railroad bridge. Wheatgrass is do		<u>.</u>			onage.
HYDROLOGY					
Recorded Data (Describe in Remarks):	Wetland Hy	drology	Indicators	•	
Stream, Lake, or Tide Gauge	Prim	ary Ind	icators:		
Aerial Photographs		X Inc	ındated		
Other		Sa	turated in (	Jpper 12 Inches	
X No Recorded Data Available		Wa	ter Marks		
ind Observation		Dri	ft Lines		
ield Observations:			diment Dep		
Depth of Surface Water: ~ 0 - 8 (in.)			ainage Patt	erns in Wetlands	}
Depth of Surface Water: $\frac{\sim 0-8}{\sim 0}$ (in.)	Seco			2 or more require	
Depth to Free Water in Pit: (in.)		— Oxi Wa	dized Root ter-Stained	: Channels in Up I Leaves	per 12 Inches
Denth to Saturated Calls		Loc	al Soil Sur	vey Data	
Depth to Saturated Soil: (in.)	_	FA(	C-Neutral T	est	
		Oth	er (Explain	in Remarks)	
emarks: Frozen surface water in pockets. Channel beco	mes more well	define	d holow the	rolles at the t	<del></del>
railroad bridge the areas adjacent to the small channel a	are relatively fla	ueilliei it	neiow the	railroad bridge.	Upstream of
,	s resulting the				
·					

SOILS							. 11		<del></del>
Map Un		Gg – Geer silt lo	am, slightly s	saline	Drainage Class:	Moderate	ly well	draine	1
`	and Phase):				Field Observations	0	V	<b>3</b> 7	AL.
Taxonor	my (Subgrou	p): Typic torriorther	its		Confirm Mapped Ty	/pe?	Yes	<u>X</u>	Nd.
Drofile	Description	•	····				-		
Depth Depth	<u>Description</u> I	Matrix Color	Mottle Cold	rs	Mottle	Texture,	Concre	tions,	
inches	Horizon	(Munsell Moist)	(Munsell M		Abundance/Contrast	Structure			
Inches	110112017	(Manoon Motor)	(						
	<i>t.</i>								
	7								İ
			1						ļ
·							<del> </del>		
	,								
									ľ
	H Si X A R G	istosol istic Epipedon ulfidic Odor quic Moisture Regime educing Conditions leyed or Low-Chroma (		L	concretions ligh Organic Content in sorganic Streaking in Sandisted on Local Hydric Solisted on National Hydric Other (Explain in Remark	dy Soils ills List Soils List s)			
Remark	s: Soil froze	en, no soil pit excavated	i. Aquic mois	sture regim	e is assumed to occur d	uning the giv	owing 3		
WETLA	AND DETE	RMINATION							
Wetland	ytic Vegetation Hydrology Pre oils Present?		No No No	Is this Sam	pling Point Within a Wetlar	nd? <u>X</u>	_ Yes		No
respect was as season	ively. Pond	ded (frozen) water oc ovisionally determined de more information o	curred in po d to be a we	ckets. No tland area	area dominated by wo soil pit excavated, but, but further investigated apparent connection	t an aquic tion during	moistui the gro	re regi wing	ıme

#### **DATA FORM ROUTINE WETLAND DETERMINATION**

(1987 COE Wetlands Delineation Manual)

Project/Site: Yucca Mountain Rail Corridor EIS/					
Meadow Valley Wash – Caliente Alignment Applicant/Owner: Bechtel-SAIC	<del></del>		Date:	01/13/2006	
Investigator: PBS&J (RRM & LB)			County:	Lincoln	
			State:	Nevada	
Do Normal Circumstances exist on the site:	Yes	No	Communit	y ID:	
Is the site significantly disturbed (Atypical Situation)?	Yes X	No	Transect I	D:	
Is the area a potential Problem Area?:	Yes X	No	Plot ID:	WT-3	
(If needed, explain on reverse.)		•		<del></del>	· <del></del>
NOTE: Site occurs on the property with the fancy brick gate in	the vicinity of t	he pro	posed siding j	facility on the wes	st side of the
tracks. WT-PT-58				•	•
VEGETATION					
Dominant Plant Species Stratum Indicator	Domi	nant P	lant Species	Stratum	Indicator
1 Eleagnus angustifolia S FAC	9		un oposios	·	mulcator
2	10	<del></del>			<del></del>
3	11		·		
4	12				
5	13		<del></del>		
6	14				
7	15				
	16			·	
Percent of Dominant Species that are OBL, FACW, or FAC	/		4.44 4.00		
		•	1/1 = 100		<del></del>
Remarks: Palustrine scrub-shrub area with little to no under	erstory. Scatt	ered ta	amarisk also	observed.	
					e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya del companya de la companya del companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la co
HYDROLOGY					
Recorded Data (Describe in Remarks):	Wetland Hy	drolog	y Indicators:		
Stream, Lake, or Tide Gauge	Prim	ary Ind	dicators:		
Aerial Photographs			undated		
$oxdot {f X}$ No Recorded Data Available	_			Jpper 12 Inches	
X No Recorded Data Available	_		ater Marks		
Field Observations:	_		rift Lines		
-leid Observations.	_		ediment Dep		
Depth of Surface Water: ~ 0 - 18 (in.)	Seco	יחלארע	fainaye ⊏au Indicators (:	erns in Wetland: 2 or more requir	S 
- 0 - 10 ()	0000			z or more requir : Channels in Up	•
Depth to Free Water in Pit:		$-\tilde{w}$	ater-Stained	. Ullatitiele itt o _k H eaves	per 12 mones
			cal Soil Sur		
Depth to Saturated Soil: (in.)			AC-Neutral T	•	
				in Remarks)	
amarke. Site was inundated - frozen water. Water appea	to nond in			•	<del></del>
emarks: Site was inundated - frozen water. Water appear	its to pond in	lfiis ar n Por	ea. Depin o Ided water s	tinundation ran	ged from 0 to

crossing the ditch at the south end. Two berms perpendicular to the drainage appeared to facilitate water ponding.

SOILS									
Map Un	it Name	Gg – Geer silt l	oam, slightly s	aline	Drainage Class:	Mode	rately well	drainec	<u> </u>
(Series	and Phase):				Field Observations	_			
Taxono	my (Subgrou	up): Typic torriorthe	nts		Confirm Mapped T	ype? _	Yes	<u>X</u>	NG
Drofile	Description	· · · · · · · · · · · · · · · · · · ·							
Depth	Description	Matrix Color	Mottle Colo	rs	Mottle	Text	ure, Concre	tions,	
inches	Horizon	(Munsell Moist)	(Munsell Mo		Abundance/Contrast	Struc	cture, etc.		
			<u> </u>						
	3								
						+			
							<del></del>		
			<del> </del>	<del></del>					
	1								
Hydric	Soil Indicat	ors:							
		istosol			Concretions				
		istic Epipedon			ligh Organic Content in			nay So	ils
		ulfidic Odor			organic Streaking in San isted on Local Hydric So				
		quic Moisture Regime educing Conditions			isted on National Hydric		st		
		leyed or Low-Chroma	Colors		other (Explain in Remark		<b>.</b>		
		•			, ,	•	naimo io acc	homod	+0
Remark	(s: Soil froz	en, no soil pit excavate	d. Due to inur	idation bei	ng present, an aquic mo ed clayey, which may se	al and c	egime is as: ause water	to none	d (
occur a	uring the gro	wing season. Though	nozen, me so	is appeare	d dayey, which may so	ai aila o	addo water	to point	
WETLA	AND DETE	RMINATION						·	
Hydroph	ytic Vegetatio	n Present? X Yes	No						
	Hydrology Pro								
	oils Present?			Is this Sam	pling Point Within a Wetla	nd?	X Yes		No
				U D	i alian and containi		ded /frezen	) wata	
Remar	ks: A palu	strine scrub-snrub ar	ea dominated	Dy Russ	ian olive and containi med due to the site b	ny pont oina int	indated du	i) Wale	i.
NO SOII	pit excavat	ed, but an aquic moi	Sture regime	was assu	further investigation d	urina th	e arowina	seasoi	n
site visi	it. Provisio	information on the c	ito This site	should be	e investigated during t	he arov	vina seaso	n to m	ake
may pro	ovide more	otormination. Due to	there heing	no annar	ent connection to the	tributarı	/ system. t	his site	e is
	ıı wettand d on-jurisdicti		, mere benry	no appan	one connection to the	. ioutui j	, 5,500,,, 0	0.10	
uvein u	ori-jurisuicti	unai.							
							· · · · · · · · · · · · · · · · · · ·		



## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Applicant/Owner: <u>Bechtel-S</u> avestigator: <u>PBS&amp;J (RRM o</u>						County:	Linc		
						State:	Neva	ada	
o Normal Circumstances ex			X Yes		No	Commun	ity ID:		
the site significantly disturb		Situation)?	Yes	$\overline{\mathbf{X}}$	No	Transect	•		
the area a potential Probler		•	Yes	X	No	Plot ID:		WT-4	· · · · · · · · · · · · · · · · · · ·
(If needed, explain on rever	•		<del></del> -		-				
OTE: Located in the wash that	t crosses Car	rigan Road an	d parallels	the alig	gnment	before flow	ing diag	gonally to	the southea.
om the Caliente Alignment. WI	(-PT-6/							•	
EGETATION									
Dominant Plant Species	Stratum	Indicator		Domi	nant Pl	ant Species		Stratum	Indicato
Scirpus acutus	Н	OBL	9						
Typha sp.	Н	OBL	_   10					· · · · · · · · · · · · · · · · · · ·	<del></del>
Juncus balticus	Н	FACW	_   11			·			······································
Salix sp. (Salix exigua?)	<u> </u>	OBL	_   12						
Tamarix ramosissima	<u>S</u>	FACW	_   13						·
			14						
			15						
marks: Palustrine emergen	t wetland. C	hannel is vec	16 AC (exclud			5/5 = 10 ulrush and		scattered	d clumps o
marks: Palustrine emergen ow and tamarisk occur on w	t wetland. C	hannel is vec	16 AC (exclud					scattered	d clumps o
marks: Palustrine emergen ow and tamarisk occur on w  DROLOGY	t wetland. C ash margins	hannel is veg	AC (exclud	marily	with b	ulrush and	cattail,	scattered	d clumps o
marks: Palustrine emergen ow and tamarisk occur on w  DROLOGY  Recorded Data (Des	t wetland. Crash margins	hannel is veç	AC (exclud	marily	with bi	ulrush and	cattail,	scattered	d clumps o
parks: Palustrine emergen ow and tamarisk occur on w  DROLOGY  Recorded Data (Des	t wetland. C ash margins scribe in Ren n, Lake, or Ti	hannel is veg narks): ide Gauge	AC (exclud	marily	with bi	ulrush and	cattail,	scattered	d clumps o
marks: Palustrine emergen ow and tamarisk occur on w  DROLOGY  Recorded Data (Des  Stream Aerial	t wetland. Crash margins	hannel is veg narks): ide Gauge	AC (exclud	nd Hyd Prim	with bo	ulrush and  / Indicators licators:	cattail,		
DROLOGY  Recorded Data (Des  Stream  Aerial  Other	t wetland. Crash margins scribe in Ren n, Lake, or Ti Photographs	hannel is veg narks): ide Gauge	AC (exclud	nd Hyd Prim	drology ary Ind X Sa	ulrush and  / Indicators licators: undated lturated in 1	cattail,		
marks: Palustrine emergen ow and tamarisk occur on w  DROLOGY  Recorded Data (Des  Stream Aerial	t wetland. Crash margins scribe in Ren n, Lake, or Ti Photographs	hannel is veg narks): ide Gauge	AC (exclud	nd Hyd Prim	drology ary Ind X Ind X Sa Wa	ulrush and  / Indicators licators: undated lturated in later Marks	cattail,		
DROLOGY  Recorded Data (Des  Stream  Aerial  Other  X  No Recorded Data A	t wetland. Crash margins scribe in Ren n, Lake, or Ti Photographs	hannel is veg narks): ide Gauge	AC (exclud	nd Hyd Prim	drology ary Ind X Ind X Sa Wa	ulrush and  / Indicators licators: undated liturated in later Marks ift Lines	cattail,		
DROLOGY  Recorded Data (Des  Stream  Aerial  Other  X No Recorded Data A	t wetland. Crash margins scribe in Ren n, Lake, or Ti Photographs	hannel is veg narks): ide Gauge	AC (exclud	nd Hyd Prim:	drology ary Ind X Inu X Sa Wa Dri	ulrush and  / Indicators licators: undated liturated in later Marks ift Lines diment Dep	cattail,	12 Inches	S
DROLOGY  Recorded Data (Des  Stream  Aerial  Other  X  No Recorded Data A	t wetland. Crash margins scribe in Ren n, Lake, or Ti Photographs	hannel is veg narks): ide Gauge	AC (exclud	nd Hyd Prima	drology ary Ind X Int X Sa Wi Dri Se X Dra	ulrush and  / Indicators licators: undated liturated in later Marks ift Lines diment Dej	cattail,	12 Inches	s ds
DROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A Depth of Surface Water:	t wetland. Crash margins scribe in Rem 1, Lake, or Ti Photographs Available -~ 12	narks): ide Gauge	AC (exclud	nd Hyd Prima	drology ary Ind X Inu X Sa Dri Se C Dra ndary	ulrush and  / Indicators licators: undated atter Marks aft Lines diment Depainage Patt Indicators ( idized Roo	cattail,  Upper  oosits terns ir 2 or m t Chan	12 Inches n Wetland ore requi nels in U	s ds red);
DROLOGY  Recorded Data (Des  Stream  Aerial  Other  X No Recorded Data A	t wetland. Crash margins scribe in Rem 1, Lake, or Ti Photographs Available -~ 12	hannel is veg narks): ide Gauge	AC (exclud	nd Hyd Prima	drology ary Ind X Int X Sa Wi Dri Se C Dra ndary Ox Wa	ulrush and  / Indicators licators: undated ater Marks ift Lines diment Depainage Pati Indicators ( idized Rooater-Stained	cattail,  Upper  cosits terns in 2 or m t Chan d Leave	12 Inches n Wetland ore requi nels in U	s ds
DROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A Depth of Surface Water in Pit	scribe in Rem  Lake, or Ti  Photographs  Available	narks): ide Gauge	AC (exclud	nd Hyd Prima 	drology ary Ind X Int X Sa	ulrush and  / Indicators licators: undated liturated in later Marks iff Lines diment Depainage Pati Indicators ( idized Roo later-Stained cal Soil Sur	cattail,  cosits terns in 2 or m t Chan d Leave	12 Inches n Wetland ore requi nels in U	s ds red);
Stream Aerial Other X No Recorded Data A d Observations: Depth of Surface Water:	t wetland. Crash margins scribe in Rem 1, Lake, or Ti Photographs Available -~ 12	narks): ide Gauge	AC (exclud	nd Hyd Prima 	drology ary Ind X Inu X Sa Dri Se C Dra ndary Ox Ua Loc	ulrush and  / Indicators licators: undated ater Marks ift Lines diment Depainage Pati Indicators ( idized Rooater-Stained	cattail,  cosits terns in 2 or m t Chan d Leave	12 Inches n Wetland ore requi nels in U	s ds red);

SOILS		·								
Map Un	nit Name	Gh-	Geer silt loa	ım, strongly	saline	Drainage Class:		erately well	draine	d
(Series	and Phase):					Field Observatio				
Taxono	my (Subgrou	ip): Typ	ic torriorther	nts -		Confirm Mapped	l Type? 	Yes	<u>X</u>	No
Profile	Description	:					1			
Depth		Matrix Co		Mottle Col		Mottle		ture, Concre	etions,	
inches	Horizon	(Munsell	Moist)	(Munsell N	/loist)	Abundance/Contras	st Stru	icture, etc.		
	,									
	3									
								<del></del>		
					<del></del>					
Hydric	Soil Indicat	ors:			_					
11,0110		istosol				Concretions			, _	
		istic Epiped				ligh Organic Content			ındy Sc	ils
		ulfidic Odo				organic Streaking in S				
			re Regime			isted on Local Hydric isted on National Hyd				
		educing Co	onditions ow-Chroma (	Colore		other (Explain in Rem		_101		
		•				· · .		ad barradasi		
		it excavate	d. Aquic mo	oisture regim	ie assumed	Site is inundated/sa	iturateo ai	na boundarie	es are	
distinct.										\. 
			•							
			<del>,</del>			· Vingagan - Mile 1940,		7		
WETL	AND DETE	RMINATIO	ON							
r	ytic Vegetatio		X Yes	No						
	Hydrology Pro		X Yes	No						
	oils Present?		X Yes	No	Is this Sam	pling Point Within a We	tland?	X Yes		No
Remar	ks: A palu	strine eme	rgent wetla	nd that occ	curs in the	oottom of a wash w	ith flowin	g water. S	ite is	
domina	ated by buln	ush and ca	attail. An a	quic moistu	re regime	was assumed. The	wetland	connects t	o Mea	dow
	Wash and i									

## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site: Yucca Mountain Rail Corridor EIS/						
Meadow Valley Wash - Caliente Alignment						
Applicant/Owner: Bechtel-SAIC	<u> </u>		<del></del>	Date:	01/16	
Investigator: PBS&J (RRM & LB)			<del> </del>	County: State:	Linco	
		·		State.	Nevac	18
Do Normal Circumstances exist on the site:	X	Yes	No	Communi	ty ID:	
Is the site significantly disturbed (Atypical Situation)?		Yes	X No	Transect	ID:	
Is the area a potential Problem Area?:		Yes	X No	Plot ID:		WT-5
(If needed, explain on reverse.)			<del></del>			W 1-3
NOTE: Located from Caliente northward in Meadow Valley	Wasi	l urr	DT 02			
The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa	Wasi	1. WI-	·F1-93			
VEGETATION						
Dominant Plant Species Stratum Indicator			Dominant Pl	ant Species	Ç	Stratum Indicator
1 Scirpus acutus H OBL	-	9 -				Tholeator
2 Typha sp. H OBL	-	10	-			
3 Salix sp. (Salix exigua?) S OBL	-	11	<del></del>			
4 Tamarix ramosissima S FACW	-	12				
5	-	13	<del></del>			
6	-	14				······································
7	-	15	·-			
8	-	_				
ercent of Dominant Species that are OBL, FACW, or FA	-	16 _				
clumps of willow and tamarisk occur on wash margins.	<del></del>	<del>-1</del>				
HYDROLOGY				•		
Recorded Data (Describe in Remarks):	V	Vetlar	nd Hydrology			
Stream, Lake, or Tide Gauge			,	/ indicators:	•	
Aerial Photographs			Primary Inc			
renail notographs	- 1		Primary Inc	icators:		
Other			_X_ In:	icators: undated		2 Inches
			X Inc	icators:		2 Inches
Other  X No Recorded Data Available			X Ind X Sa	icators: indated turated in U		2 Inches
Other			X Ind X Sa W. Dr	icators: undated turated in U ater Marks ift Lines	Jpper 1	2 Inches
Other  X No Recorded Data Available  Field Observations:			X Ind X Sa W Dr Se X Dra	icators: undated turated in L ater Marks ft Lines diment Dep ainage Patti	Jpper 1 posits erns in	Wetlands
Other  X No Recorded Data Available			X Ind X Sa W Dr Se X Dra	icators: undated turated in L ater Marks ft Lines diment Dep ainage Patti	Jpper 1 posits erns in	
Other  X No Recorded Data Available  Field Observations:			X Ind X Sa W Dr Se X Dr Secondary Ox Wa	icators: undated turated in L ater Marks ft Lines diment Dep ainage Patti Indicators (3 idized Root ater-Stained	Jpper 1 posits erns in 2 or mo Chanr I Leave	Wetlands ore required): nels in Upper 12 Inches s
Other  X No Recorded Data Available  Field Observations:  Depth of Surface Water: ~ 12 (in.)  Depth to Free Water in Pit: (in.)			X   Ini   X   Sa   W   Or   Se   Dr.   Secondary   Ox   Wa   Local   Local   Control   icators: undated turated in L ater Marks Ift Lines diment Dep ainage Patt Indicators (2 idized Root ater-Stained cal Soil Sur	Jpper 1 posits erns in 2 or mo Chann I Leave	Wetlands ore required): nels in Upper 12 Inches s	
Other No Recorded Data Available  Field Observations:  Depth of Surface Water: 12 (in.)			X   Ini   X   Sa   W	icators: undated turated in L ater Marks ift Lines diment Dep ainage Patt Indicators (2 idized Root ater-Stained cal Soil Surv	Jpper 1  oosits erns in 2 or mo Chanr I Leave vey Da est	Wetlands ore required): sels in Upper 12 Inches s
Other  X No Recorded Data Available  Field Observations:  Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)  Depth to Saturated Soil: (in.)			X   Ini   X   Sa   W   Or   Se   X   Dr.   Secondary   Ox   Wa   Loc   X   FA   Ott	icators: undated turated in L ater Marks Ift Lines diment Dep ainage Patt Indicators (2 idized Root ater-Stained cal Soil Sur	Jpper 1  oosits erns in 2 or mo Chanr I Leave vey Da est	Wetlands ore required): rels in Upper 12 Inches s
Other  X No Recorded Data Available  Field Observations:  Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)  Depth to Saturated Soil: (in.)	is ve	egetat	X   Ini   X   Sa   W   Or   Se   X   Dr.   Secondary   Ox   Wa   Loc   X   FA   Ott	icators: undated turated in L ater Marks ift Lines diment Dep ainage Patt Indicators (2 idized Root ater-Stained cal Soil Surv	Jpper 1  oosits erns in 2 or mo Chanr I Leave vey Da est	Wetlands ore required): rels in Upper 12 Inches s
Other  X No Recorded Data Available  Field Observations:  Depth of Surface Water: ~ 12 (in.)  Depth to Free Water in Pit: (in.)	is ve	egetat	X   Ini   X   Sa   W   Or   Se   X   Dr.   Secondary   Ox   Wa   Loc   X   FA   Ott	icators: undated turated in L ater Marks ift Lines diment Dep ainage Patt Indicators (2 idized Root ater-Stained cal Soil Surv	Jpper 1  oosits erns in 2 or mo Chanr I Leave vey Da est	Wetlands ore required): rels in Upper 12 Inches s
Other  X No Recorded Data Available  Field Observations:  Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)  Depth to Saturated Soil: (in.)	is ve	egetat	X   Ini   X   Sa   W   Or   Se   X   Dr.   Secondary   Ox   Wa   Loc   X   FA   Ott	icators: undated turated in L ater Marks ift Lines diment Dep ainage Patt Indicators (2 idized Root ater-Stained cal Soil Surv	Jpper 1  oosits erns in 2 or mo Chanr I Leave vey Da est	Wetlands ore required): rels in Upper 12 Inches s

SOILS				-,			1 1 1 1
Map Un	it Name	GE – Geer fine	sandy loam,	gravel	Drainage Class:	Moderately wel	I drained
		substratum			Field Observations		
( `	and Phase):				Field Observations Confirm Mapped T		X No
Taxono	my (Subgrou	up): Typic torriorthe	ents		Commit wapped i	ype:	
Profile	Description	1.	·····				
Depth	- Description	Matrix Color	Mottle Col	ors	Mottle	Texture, Concr	etions,
inches	Horizon	(Munsell Moist)	(Munsell M	/loist)	Abundance/Contrast	Structure, etc.	
			+				
	·						
Hydric	Soil Indicat	ors:					
	н	listosol			Concretions		andu Caila
		listic Epipedon			High Organic Content in Organic Streaking in Sar		andy Solls
		ulfidic Odor			Organic Streaking in Sai Listed on Local Hydric Sc		
		quic Moisture Regime leducing Conditions			Listed on Local Hydric		
		leyed or Low-Chroma	Colors		Other (Explain in Remark		
		•			, ,		ies are
	<b>(s:</b> No soil p	oit excavated. Aquic m	ioisture regim	ie assumed	d. Site is inundated/satur	rated and boundar	les ale
distinct.							
						10000	
						<del></del>	
WETL	AND DETE	RMINATION					
r	ytic Vegetatio		s No				
	Hydrology Pr						
II .	oils Present?	X Ye		Is this Sai	mpling Point Within a Wetla	and? $\mathbf{X}$ Yes	, No
1				·	1		Valley
Remar	ks: A palu	strine emergent wet	and that occ	curs in the	channel bottom and b	An aquic moistur	vaney o regime
Wash.	Site is don	ninated by buirush a	na cattali an	a nowing t	water was observed. / ow Valley Wash and is	s therefore likely	5 regime
		ie weliano occurs in	anu aujacen	it to ivicau	OW VAIIOY WASTI ATIO K	c alordiolo intoly	
jurisdic	aionai.						
						·	

# DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Vuona Mauretain Ba	10 11	TOTAL .					
Project/Site: Yucca Mountain Ra Meadow Valley Wa							
Applicant/Owner: Bechtel-SAIC	sii – Cane	nte Alignment			Date:	01/16/2006	
Investigator: PBS&J (RRM & LB	0				County:	Lincoln	
				<del></del>	State:	Nevada	
Do Normal Circumstances exist or			X Yes	No	Commun	ity ID:	
Is the site significantly disturbed (A	Atypical S	Situation)?	 Yes	X No	Transect	-	· · · · · · · · · · · · · · · · · · ·
Is the area a potential Problem Are		′ –	Yes	X No	Plot ID:		
(If needed, explain on reverse.)				<u>A</u> 110	1 100 10.	WT-	6
		(14					
NOTE: Located in Caliente from the WT-PT-95	conjuuen	ce of Meadow \	Valley Wa	sh with Clove	er Creek sout	hward to the pr	oject boundary.
VEGETATION							
Dominant Plant Species S	Stratum	Indicator		Dominant F	lant Species	Stratum	Indicator
1 Typha sp.	Н	OBL	-   9			- Ctratum	mulcator
2 Salix sp. (Salix exigua?)	S	OBL	10				
3 Populus fremontii	<del></del>	FACW	-   11				
4		FACW	12	<del> · · - · · - · · - · · · · · · · · · </del>			
5			-   12 .			<del></del>	<del>-</del>
6			-   -				
7			.   14				
8			15				
Percent of Dominant Species that a			16				
	<del></del>	* <u> </u>					
HYDROLOGY							
Recorded Data (Describe	e in Rem	arks):	Wetla	nd Hydrolog	v Indicators	•	
Stream, La	ke, or Tic	de Gauge		Primary Inc		•	
Aerial Phot	ographs	_		=	undated		
Other	-					Jpper 12 Inche	25
X No Recorded Data Availa	able			w	ater Marks		,0
				D	rift Lines		
Field Observations:				Se	ediment Der	osits	
Donth of Confee a Miles				X Di	ainage Patt	erns in Wetlar	nds
Depth of Surface Water:	_ ~ 4	(in.)		Secondary	Indicators (	2 or more requ	uired):
Donth to Free Metaulia Dia				O:	kidized Root	Channels in I	Jpper 12 Inches
Depth to Free Water in Pit:		(in.)		W	ater-Stained	Leaves	
Depth to Saturated Soil:	_	, ,		Lo	cal Soil Sur	vey Data	
Depth to Saturated 3011.	0	(in.)			C-Neutral T		
				Ot	her (Explain	in Remarks)	
Remarks: Flowing water observed in	in the wa	sh. Wetland f	ringe and	pears to be	Supported b	v overbank flo	we and the
luvial aquifer.			0			, otorbank no	MS CHU LIN
-							
							,

SOILS						11 1 1
Map Un	it Name	GE – Geer fine	sandy loam, gravel	Drainage Class:	Moderately we	Il drained
		substratum				
(Series	and Phase):		<u> </u>	Field Observations	O V	75 1
Taxonor	my (Subgrou	p): Typic torriorthe	nts	Confirm Mapped Ty	pe? Yes	X No
	<u>Description</u>		Mattle Colore	Mottle	Texture, Conc	retions
Depth		Matrix Color	Mottle Colors (Munsell Moist)	Abundance/Contrast	Structure, etc.	
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/ Contract	0.1.00(0.10)	
	i3 2					
	ŀ					
	I				<u> </u>	
	0 11 11 1					
Hydric	Soil Indicat			Concretions		
		istosol istic Epipedon		High Organic Content in s	urface Laver in S	Sandy Soils
		ulfidic Odor		Organic Streaking in Sand		•
		quic Moisture Regime		Listed on Local Hydric Soi		
		educing Conditions		Listed on National Hydric		_
		leyed or Low-Chroma	Colors	Other (Explain in Remarks	s)	į.
		•		d. Boundarios are distinct		
Remark	s: No soil p	it excavated. Aquic m	oisture regime assume	<ul> <li>Boundaries are distinct</li> </ul>	•	
		<u> </u>				
14/FT1 /	AND DETE					
WEIL	AND DETE	RMINATION				
	ytic Vegetatio					
	Hydrology Pro	esent? X Yes		II. Deter Militain a Maralan	مان عد الاما	s No
Hydric S	oils Present?	X Yes	No Is this Sa	mpling Point Within a Wetlan	d? X Yes	S NO
	I.a. Amalu	atring garub abrub w	atland that occurs as	a wetland fringe adjace	nt to Meadow \	/allev Wash.
Remar	ks: A palu	Strine Strub-Strub Wi	elianu inai occurs as	ving water was observed	in the wash at	the time of
Site is t		uio moioturo rogimo	was assumed. The v	wetland occurs in Meado	ow Valley Wash	and so is
			was assumed. The v	monaria occaro in modal	a	
likety Ju	ırisdictional	•				
						IOUGACE 2/02

Project/Site: Yucca Mountain	Poil Comidon I	PIC/								
Project/Site: Tucca Mountain Clover Creek at I		E15/					D-4-	0.114		
Applicant/Owner: Bechtel-SA							Date:	01/12		
Investigator: PBS&J (RRM &					-		County: State:	Linco		
							State.	Neva	<u> 1a                                     </u>	
Do Normal Circumstances exist			X	Yes		No	Communi	ty ID:		
Is the site significantly disturbed	d (Atypical Site	uation)?		Yes	$\overline{\mathbf{x}}$	No	Transect	•		
Is the area a potential Problem				Yes		No	Plot ID:		WT-7	
(If needed, explain on reverse	e.)					. 10	1 100 15.		VV 1-/	
NOTE: Site is located between the	two sets of tra	icks where	they o	liveroe	from on	e ana	ther in a de	nraccio	nal area	WT DT 22
VEGETATION	•		,		J	• ••••	mer, in a ac	pression	aar area.	W1-F1-22
Dominant Plant Species	Stratum	Indicator	<del></del>	T	Domina	nt Pi	ant Species	C	Stratum	leelleete
1 Polypogon monspeliensis	Н			9		4174 1	ant opecies			Indicator
2 Unidentified Veronica sp.		FACW+	—	10						
(Veronica americana?)	Н	OBL		10						
3				11 -						
4				12						
5				13						
6				14						
7			_	15					····	
8		·· · · · · · · · · · · · · · · · · · ·		16				<del></del> .		
ercent of Dominant Species that										<del></del>
						v	·	<del></del>		
HYDROLOGY										
Recorded Data (Desc		•	1	Wetlar	nd Hydr	ology	Indicators:			
	Lake, or Tide	Gauge					icators:			
	hotographs					Int	undated			
Other	. 9. 1. 1				X	_ Sa	turated in L	lpper 1	2 Inches	
No Recorded Data Av	allable				_X		ater Marks			
Field Observed			_		_X	_ Dri	ft Lines			
Field Observations:						Se	diment Dep	osits		
Depth of Surface Water:		(: \				Dra	ainage Patte	erns in	Wetlands	<b>S</b>
Dopur of Currace Water.		(in.)	1		Second		Indicators (2			
Depth to Free Water in Pit:		(in.)				_ Wa	iter-Stained	Leave	S	per 12 Inches
Depth to Saturated Soil:	0	(in.)			X	Loc	cal Soil Surv C-Neutral T	ey Dat	ta	
		- ` ′				_	er (Explain		narks)	
Remarks: April 17, 2005 aerial ph	notograph sho	ows this a	rea 20	heine	a caturo					
ploate long term mandation. Det	on or municial	ion annea	ire ta i	กลพอง	/ariad v	vith a	iraataat dan	+ha a		ound onsite
proximately 6 inches. Wetland	drains to CC	at W end.	Occi	urs in a	a depres	ssion	between ra	uis app silroad	uear to be tracks	,
•								vau	uachs.	

Drainage Class:   Field Observations   Field Observations	SOILS					· · · · · · · · · · · · · · · · · · ·			
Profile Description:	Map Unit Name								
Profile Description: Depth inches Horizon (Munsell Moist) (Munsell Moist) (Munsell Moist) Abundance/Contrast Structure, etc.  Hydric Soil Indicators: Histosol Histic Epipedon High Organic Content in surface Layer in Sandy Soils Organic Streaking in Sandy Soils Sulfidic Odor Organic Streaking in Sandy Soils Listed on Local Hydric Soils List Listed on National Hydric Soils List Usted on National Hydric Soils List Usted on National Hydric Soils List Other (Explain in Remarks)  Remarks: Soils frozen solid - no soil pit dug. Aquic moisture regime assumed due to prevalence of FACW and OBL vegetation, strong evidence of wetland hydrology, and distinct boundaries.  WETLAND DETERMINATION  Hydrophytic Vegetation Present? X Yes No Welland Hydrology Present? X Yes No Welland Hydrology Present? X Yes No Is this Sampling Point Wilthin a Wetland? X Yes No Remarks: Palustrine emergent wetland dominated by speedwell and rabbitsfoot grass; scattered clumps of cattalls, bulrush, and spikerush also occur. Willows occur along margins. Wetland hydrology evidenced by apparent saturation in an April 17, 2005 aerial photograph, frozen soils, and primary indicators such as algal mast, drift lines, and water marks. Hydric soils assumed. The site has distinct boundaries created by railroad	(Series and Phase):								
Mottle Colors	Taxonomy (Subgroup):		-		Confirm Ma	pped Type	∍?	Yes	No.
Mottle Colors					- <del>-</del>	<del></del>			
Hydric Soil Indicators:  Histosol Histo Epipedon Sulfidic Odor Adquic Moisture Regime Reducing Conditions Gleyed or Low-Chroma Colors Gleyed or Low-Chroma Colors  Remarks: Soils frozen solid - no soil pit dug. Aquic moisture regime assumed due to prevalence of FACW and OBL vegetation, strong evidence of wetland hydrology, and distinct boundaries.  WETLAND DETERMINATION Hydrophytic Vegetation Present? X Yes No Hydric Soils Present? X Yes No Is this Sampling Point Within a Wetland? X Yes No Hydrophytic Vegetation present wetland dominated by speedwell and rabbitsfoot grass; scattered clumps of cattails, bulrush, and spikerush also occur. Willcows occur along margins. Wetland hydrology evidenced by apparent saturation in an April 17, 2005 aerial photograph, frozen soils, and primary indicators such as algal mats, drift lines, and water marks. Hydric soils assumed. The site has distinct boundaries created by railroad					8.4.4.1	1	Tautura (	`anarationa	
Hydric Soil Indicators:  Histosol Histic Epipedon Sulfidic Odor A Aquic Moisture Regime Reducing Conditions Gleyed or Low-Chroma Colors  Remarks: Soils frozen solid - no soil pit dug. Aquic moisture regime assumed due to prevalence of FACW and OBL vegetation, strong evidence of wetland hydrology, and distinct boundaries.  WETLAND DETERMINATION  Hydrophytic Vegetation Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Again Again Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present Present P	J J J J								
Histosol Histic Epipedon Sulfidic Odor Sulfidic Odor Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Listed on Local Hydric Soils List Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Listed on National Hydric Soils List Usted on National Hydric Soils List Other (Explain in Remarks)  Remarks: Soils frozen solid - no soil pit dug. Aquic moisture regime assumed due to prevalence of FACW and OBL Vegetation, strong evidence of wetland hydrology, and distinct boundaries.  WETLAND DETERMINATION  Hydrophytic Vegetation Present? X Yes No Hydric Soils Present? X Yes No Is this Sampling Point Within a Wetland? X Yes No  Remarks: Palustrine emergent wetland dominated by speedwell and rabbitsfoot grass; scattered clumps of cattalls, bulrush, and spikerush also occur. Willows occur along margins. Wetland hydrology evidenced by apparent saturation in an April 17, 2005 aerial photograph, frozen soils, and primary indicators such as algal mats, drift lines, and water marks. Hydric soils assumed. The site has distinct boundaries created by railroad	inches Horizon (M	Munsell Moist)	(Munsell M	oist)	Abundance/Co	ntrast	Structure,	eic.	
Histosol Histic Epipedon Sulfidic Odor Sulfidic Odor Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Listed on Local Hydric Soils List Histosol Aquic Moisture Regime Histosol Aquic Moisture Regime Listed on National Hydric Soils List Usted on National Hydric Soils List Other (Explain in Remarks)  Remarks: Soils frozen solid - no soil pit dug. Aquic moisture regime assumed due to prevalence of FACW and OBL Vegetation, strong evidence of wetland hydrology, and distinct boundaries.  WETLAND DETERMINATION  Hydrophytic Vegetation Present? X Yes No Hydric Soils Present? X Yes No Is this Sampling Point Within a Wetland? X Yes No  Remarks: Palustrine emergent wetland dominated by speedwell and rabbitsfoot grass; scattered clumps of cattalls, bulrush, and spikerush also occur. Willows occur along margins. Wetland hydrology evidenced by apparent saturation in an April 17, 2005 aerial photograph, frozen soils, and primary indicators such as algal mats, drift lines, and water marks. Hydric soils assumed. The site has distinct boundaries created by railroad						}			
Histosol Histic Epipedon Sulfidic Odor Sulfidic Odor Aquic Moisture Regime High Organic Content in surface Layer in Sandy Soils Aquic Moisture Regime Histosol Aquic Moisture Regime Histosol Organic Streaking in Sandy Soils Aquic Moisture Regime Histosol Aquic Moisture Regime Listed on Local Hydric Soils List Gleyed or Low-Chroma Colors Other (Explain in Remarks)  Remarks: Soils frozen solid - no soil pit dug. Aquic moisture regime assumed due to prevalence of FACW and OBL vegetation, strong evidence of wetland hydrology, and distinct boundaries.  WETLAND DETERMINATION  Hydrophytic Vegetation Present? X Yes No Hydric Soils Present? X Yes No Hydric Soils Present? X Yes No Is this Sampling Point Within a Wetland? X Yes No Remarks: Palustrine emergent wetland dominated by speedwell and rabbitsfoot grass; scattered clumps of cattails, bulrush, and spikerush also occur. Willows occur along margins. Wetland hydrology evidenced by apparent saturation in an April 17, 2005 aerial photograph, frozen soils, and primary indicators such as algal mats, drift lines, and water marks. Hydric soils assumed. The site has distinct boundaries created by railroad									
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Project/Site: Yucca Mountain Ra	l Corridor FIS/	<del>,</del>	<del></del>	<del></del>	<del>-</del>	Detail			
Clover Creek – Duto						Date:	01/12/2006	:	
Applicant/Owner: Bechtel-SAIC						County:	Lincoln	<u> </u>	
Investigator: PBS&J (RRM & LB	)					State:	Nevada		
Do Normal Circumstances exist or	the site	X	Yes		No	Commun	. ID.		
Is the site significantly disturbed (A		2 A	Yes	-	No	Commun	•		
Is the area a potential Problem Are	age onuation,	·		<u>X</u>	No	Transect			
(If needed, explain on reverse.)	<i>a</i> :.		Yes	<u>X</u>	No	Plot ID:	_W′]	Γ-8	
NOTE: Small potential non-jurisdicti	onal wetland locat	ad on the	south	ida of	AL DI		,		
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	onor wentana toeth	ca on me	souin s	iue oj	ine KK	iracks in a	depressional	area. WT-PT-4	4
VEGETATION									
Dominant Plant Species S	tratum Indicat	or		Domi	nant Pi	ant Species	Stratur	m Indicato	or
Unidentified forb	H Unk		9						
2			10				<del></del>	· · · · · · · · · · · · · · · · · · ·	
3			11 -						
4			12						
5			13 -					· · · · · · · · · · · · · · · · · · ·	
6			14						
7			15					<del></del>	
8			16						
likely due to ponding water. Need f	lower to be able	o identir	y the t	orb.		<del></del>			
Recorded Data (Describe	in Domestal								
	ke, or Tide Gauge	_   '	Wetlar			/ Indicators	:		
Aerial Photo		9		Prima	-	icators:			
Other	ographis			_		undated			
X No Recorded Data Availa	ıble			^	_ Sa W:	ater Marks	Jpper 12 Inc	hes	
				_	_	ft Lines			
ield Observations:		<del></del>				diment Der	annita.		
					_ Dra	ainage Patt	erns in Wetla	ande	
Depth of Surface Water:	(in.)			Secor	idary	Indicators (	2 or more re	quired):	
Depth to Free Water in Pit:	(in.)				Ox		Channels in	Upper 12 Inc	hes
					_ Loc	al Soil Sur	vey Data		
Depth to Saturated Soil:	(in.)				_	C-Neutral T		<b>,</b>	
amarke: Coil frozon colla ladicar					_		in Remarks	)	
temarks: Soil frozen solid indicating ailroad grade. Mud cracks indicate veek.	soil saturation to vater has ponded	surface. here in	Depr the pa	essior st. No	nal are appa	a adjacent rent outlet	to the south or connection	side of the n to Clover	*****

SOILS											
Map Un	it Name	AL – Allu	vial Land		Drainage Class:		derately	to We	II Dra	ined	
(Series	and Phase):	NA			Field Observatio						
Taxono	my (Subgrou	p): Alluvium			Confirm Mapped	d Type?		Yes _	<u>X</u>	Nc.	
Drefile	Description										
Depth	Description	Matrix Color	Mottle Col	lors	Mottle	Te	exture, C	Concreti	ions,		
inches	Horizon	(Munsell Moist)	(Munsell N		Abundance/Contras		ructure,				
	<u> </u>										
i											
Hydric	Soil Indicate	ors:									
		istosol			Concretions	in ourfoc	no Lavor	in San	dy So	ile	
		istic Epipedon			High Organic Content Organic Streaking in S			III San	uy 30	112	
		ulfidic Odor quic Moisture Re	nime		isted on Local Hydric						
		educing Condition			isted on National Hyd						
ĺ		leyed or Low-Chi		(	Other (Explain in Rem	arks)					
Domork	va. No soil n	it excavated due	to frozen soils				<u> </u>				
Remark	( <b>s</b> : 140 son b	il excavaled due	to mozem sons.								
								<del></del>	**** - <u>-, -</u>		
WETLA	AND DETE	RMINATION		T							
	ytic Vegetatio		Yes <u>??</u> No								
i	Hydrology Pre		Yes No	La Abia Cara	anlina Deint Within a Wo	tland?	37	Von		No	
Hydric S	oils Present?	<del>??</del>	Yes ?? No	is this San	npling Point Within a We	eliano :	<u>X</u>	Yes _		INU .	
Remar	ks: A wetla	and determination	on was unable to	be compl	eted due to the time	of year	of the	survey	. The	<del>)</del>	
site sho	ould provision	onally considere	ed to be a wetlan	nd due to e	vidence of ponding	and the	presen	nce of a	an		
unident	tified forb th	at is not found i	n surrounding up	pland area	s (and therefore sor	newhat	likely to	o be			
hvdrop	hvtic). A so	il pit was not ex	cavated due to s	soils being	frozen. It is recomm	mended	that, if	neces	sary,	this	
site be	site be reinvestigated during the growing season. No outlet or surface connection was found to connect this										
site to (	Clover Cree	k, therefore if th	ne site is a wetlai	nd, it would	d likely be non-juriso	dictional	•				
İ											



Project/Site: Yucca Mountain Rail Corridor EIS/ Clover Creek – Dutch Flats  Applicant/Owner: Bechtel-SAIC	<b>15</b>
Applicant/Owner: Bechtel-SAIC	Date: 01/12/2006
· · · · · · · · · · · · · · · · · · ·	County: Lincoln
Investigator: PBS&J (RRM & LB)	State: Nevada
Do Normal Circumstances exist on the site:	
In the site state of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site of the site	Yes X No Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes No Transect ID:
Is the area a potential Problem Area?:	Yes No Plot ID: WT-9
(If needed, explain on reverse.)	
NOTE: Site is located in a re-graded/re-worked section of Clove	r Creek's channel WT-PT-77
	October Schaller W1-11-77
VEGETATION  Dominant Plant Species Stratum Indicator	Dominant Block Consis
1	Dominant Plant Species Stratum Indicator 9
2 _	10
Tamarix ramosissima Seedling FACW 3	
4	11
5	12
6	13
7	14
8	15
	16
	Railroad. One small saturated area at the west end of the site irpus acutus.
HYDROLOGY	
Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge	Wetland Hydrology Indicators: Primary Indicators:
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs	Primary Indicators: Inundated
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other	Primary Indicators:  Inundated Saturated in Upper 12 Inches
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs	Primary Indicators:  Inundated Saturated in Upper 12 Inches Water Marks
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other  No Recorded Data Available	Primary Indicators:  Inundated X Saturated in Upper 12 Inches Water Marks Drift Lines
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other	Primary Indicators:  Inundated  X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:	Primary Indicators:  Inundated  X Saturated in Upper 12 Inches  Water Marks  Drift Lines  Sediment Deposits  X Drainage Patterns in Wetlands
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:	Primary Indicators:  Inundated X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required):
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:	Primary Indicators:  Inundated X
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)	Primary Indicators:  Inundated X
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water:  (in.)	Primary Indicators:  Inundated X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  O (in.)	Primary Indicators:  Inundated  X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)  Depth to Saturated Soil: (in.)	Primary Indicators:  Inundated X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  Depth to Saturated Soil:  O (in.)  Remarks: April 17, 2005 aerial photography shows this as a seldition, the site has patches of algal mats indicating the long	Primary Indicators:  Inundated X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  O (in.)	Primary Indicators:  Inundated X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)
Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  Depth to Saturated Soil:  O (in.)  Remarks: April 17, 2005 aerial photography shows this as a seldition, the site has patches of algal mats indicating the long	Primary Indicators:  Inundated X Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)

SOILS												
	nit Name	AL – Alluvial L	and	Drainage Class:								
•	and Phase):	NA		Field Observations								
Taxono	my (Subgrou	up): Alluvium		Confirm Mapped Typ	pe? X Yes No.							
5 61-	D ulmāla m											
	<u>Description</u>	n:   Matrix Color	Mottle Colors	Mottle	Texture, Concretions,							
Depth inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.							
HICHES	TIONZON	(Marioon Molocy	(Midilodii II.d.d.)									
	,											
	.;											
	ļ											
	<del> </del>											
	,											
Lydric	Soil Indicate	ore:										
Hyuno		listosol		Concretions								
		listic Epipedon			urface Layer in Sandy Soils							
	s	ulfidic Odor		Organic Streaking in Sand								
	X	quic Moisture Regime	t	isted on Local Hydric Soil	Is List							
		educing Conditions		Listed on National Hydric S Other (Explain in Remarks								
		ileyed or Low-Chroma (		, .								
Remark	(s: Soils fro	zen – no soil pit excava	ted. Aquic soil regime a	assumed due to strong ev	vidence of wetland hydrology.							
a preval	lence of FAC	W species, and a distir	nct boundary. Due to th	e flood in 2005 and subset	equent regrading of the site it							
is unlike	ly that redox	imorphic characteristic	s would have developed	d by the time of the investi	igation.							
<u></u>			***		to the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the							
WETLA	AND DETE	RMINATION										
	ytic Vegetation		No									
	Hydrology Pre		<del></del>									
1	oils Present?	X Yes		npling Point Within a Wetland	d? X Yes No							
Ť												
Remar	ks: Site ap	pears to be a develo	ping palustrine scrub-	shrub wetland that will	be dominated by willow							
species	and some	tamarisk. The site w	/as disturbed by the ∠	005 11000 and then by t	reclamation efforts likely by							
Union r	Jacitic Haiir	Oad, thus the probler	n area anu atypicai sii seed by soil seturetii	an avident in an Anril 17	riven on the first page of 7, 2005 aerial photograph,							
this for	m. Welland	Anlyuruluyy was evide	findicative of soil satu	uration to the surface)	and drainage patterns. No							
the pre	Sence or an	Jai mais, mozem soms	flows in Clover Cree	k could change the con	figuration of the wetland.							
The we	was thoave Mas thoave	acent to Clover Cree	k, and therefore likely	iurisdictional.	119414111111111111111111111111111111111							
1110 410	illand to day	20011110 010101 0101	ing with the control with y	Jan 10 200 100 100 100 100 100 100 100 100								



	·
Project/Site: Yucca Mountain Rail Corridor EIS/	
Clover Creek - Dutch Flats Area	Date: 01/14/2006
Applicant/Owner: Bechtel-SAIC Investigator: PBS&J (RRM & LB)	County: Lincoln
TI BS&3 (KKWI & EB)	State: Nevada
Do Normal Circumstances exist on the site:	Yes X No Community ID:
Is the site significantly disturbed (Atypical Situation)?	X Yes No Transect ID:
la Na anna ann an Aire ann an Aire ann an Aire ann an Aire ann an Aire ann an Aire ann an Aire ann an Aire an	
(If needed, explain on reverse.)	X Yes No Plot ID: WT-10
WT-PT-89.	project area located between Clover Creek and the railroad tracks.
W1-11-09.	
VEGETATION	
Dominant Plant Species Stratum Indicator	Dominant Plant Species Stratum Indicator
1 Eleocharis palustris H OBL	9
2 Salix sp. (Salix gooddingii?) Seedlings FACW	10
3 Tamarix ramosissima Seedlings FACW	11
4 Typha sp. or possibly	12
Sparangium sp. (?)(grazed) H OBL 5	
6	_ 13
7	_   14
	_   15
· ————————————————————————————————————	16
Percent of Dominant Species that are OBL, FACW, or FAC	C (excluding FAC-). 4/4 = 100%
Remarks: Site has been reworked and grazed. Site is lin	
Trainian one has been reworked and grazed. Site is in	lear in a ditch-like configuration.
HVDDOLOGV	
HYDROLOGY	
Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
Stream, Lake, or Tide Gauge	Primary Indicators:
X Aerial Photographs	Inundated
No Recorded Data Available	X Saturated in Upper 12 Inches
No necorded Data Available	Water Marks
iold Observations	Drift Lines
Field Observations:	Sediment Deposits
Depth of Surface Water: (in.)	X Drainage Patterns in Wetlands
Depth of Surface Water: (in.)	Secondary Indicators (2 or more required):
Depth to Free Water in Pit: (in.)	Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)	Water-Stained Leaves
Depth to Saturated Soil: 0 (in.)	Local Soil Survey Data
Depth to Saturated Soil: 0 (in.)	X FAC-Neutral Test
	Other (Explain in Remarks)
emarks: Patches of soil saturation to the surface were ex	vident during site visit as well as in an April 17, 2005 aerial
otograph.	

SOILS  Map Unit Name AL – Alluvial Land Drainage Class: Moderately to Well Drained												
Map Un	it Name	AL – Alluvial La	and		Drainage Class:	Moderatel	y to Well Dr	rained				
(Series	and Phase):	NA			Field Observations			,				
Taxonor	my (Subgrou	p): Alluvium			Confirm Mapped Ty	pe?	Yes	_ N(				
5 (1	December											
	<u>Description</u>	Matrix Color	Mottle Cold	ire	Mottle	Texture (	Concretions,					
Depth inches	Horizon	(Munsell Moist)	(Munsell M		Abundance/Contrast	Structure		!				
inches	HOHZOH	(Marisell Moist)	(IVIOITOON IVI	Oloty	7.00110011001							
	i											
				:								
						<u> </u>		_				
			<u> </u>									
Hydric S	Soil Indicate	ors:		_								
		stosol			oncretions	مسامية	r in Candy C	oilo				
		stic Epipedon			igh Organic Content in s rganic Streaking in Sand		r in Sandy S	Olis				
		ulfidic Odor quic Moisture Regime			sted on Local Hydric Soi							
		educing Conditions			sted on National Hydric							
		leyed or Low-Chroma C	Colors		ther (Explain in Remarks							
·		•					lictingt and li	mito				
Remark	s: No soil p	it excavated – solis froz	en. Aquic m	oisture regi	me assumed. The bour by the 2005 flood and he	as recently t	nsunct and n been rework	ed if				
unlikely	that hydric s	oil indicators have deve	e trie area w eloped.	as anecteu	by the 2005 hood and h	ao rocomiy i	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	```````````````````````````				
urilikely	inat Hydrid 5	on maioaioro havo do re						1				
					The difference of the Market of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the		<del></del>	<u> </u>				
WETLA	ND DETE	RMINATION										
Hydrophy	tic Vegetation	Present? X Yes	No									
	Hydrology Pre		No									
Hydric So	oils Present?	X Yes	No	Is this Sam	oling Point Within a Wetlan	d? <u>X</u>	Yes	_ No				
Domosi	ka. A daya	loning palustring ome	raont wotla	nd contain	ing hydrophytic vegeta	ation and s	oil saturatio	n				
The are	ks: A ueve	toping palustrine eme	d and has h	een reworl	ked. Due to its proxim	ity to Clove	er Creek, th	is site				
	jurisdiction		a ana nas b		tou. Due to ite promin	,	,, 0.00.,					
is likely	julisalotion	ui.										
					A CONTRACTOR OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH		I by HOUSAC	5 0/00				



P	roject/Site: Yucca Mountain								
Ì	<u>Clover Creek –</u> pplicant/Owner: Bechtel-S		rea	<del></del>		_	Date:	01/15/2006	
	ivestigator: PBS&J (RRM &		<del></del>			<del>-</del>	County: State:	Lincoln	
L						_	Siale.	Nevada	
a	o Normal Circumstances exi			X	'es	No	Communi	ty ID:	
2	the site significantly disturbe		lituation)?	Y	es X	No	Transect	ID:	
ls	the area a potential Problem			Y	es 🔀	No	Plot ID:	WT-1	1
	(If needed, explain on revers					_	1		
N	OTE: Small pocket just north	of the project of	area at the we	est end o	f the Dui	ch Flats	project area	at the head of a	spring, WS-PT-
28	31								
V	EGETATION								
	Dominant Plant Species	Stratum	Indicator	<del></del>	Dor	ninant P	ant Species	Stratum	Indicator
1	Eleocharis palustris	Н	OBL	— I,	9			Otratum	mulcator
2	Salix exigua	S	OBL		0	<u> </u>			
3	Tamarix ramosissima	s	FACW	_   1	1				
4	Typha sp. or possibly		11.011	_   1	2				
5	Sparangium sp. (?)(grazed)	Н	OBL	-  ,					
6	Epilobium sp.	<u>H</u>	FACW(?)	<u> </u>	3				
7	Juncus balticus	<u>H</u>	FACW	I '	4				
À.	Polypogon monspeliensis	<u>H</u>	FACW+	_   1	·				
	rcent of Dominant Species th	<del> </del>		_   1		<del> </del>			·
—	/DROLOGY								
	Recorded Data (Des	cribe in Rem	arks):	We	etland H	vdrolog	y Indicators	•	
		n, Lake, or Ti	•	'''			dicators:	•	
		Photographs			,	•	undated		
	Other				_			Jpper 12 Inches	S
	X No Recorded Data A	vailable				W	ater Marks		
F:al	d Observations			_	_		ift Lines		I
rie	d Observations:				_		ediment Dep		
	Depth of Surface Water:	2	(in.)	l	Soc	X Dr	aınage Pattı Indicators (	erns in Wetland 2 or more requi	ds
	,		()		360				
	Depth to Free Water in Pit	:	(in.)		-	— 👸	ater-Stained	. Chairleis in U H eaves	pper 12 Inches
		-					cal Soil Sur		
	Depth to Saturated Soil:	0	(in.)	ľ	_		C-Neutral T	•	
			<del></del>	- 1			her (Explain	in Remarks)	
en	narks: Site is located at the	head of a sp	ring Patche	es of soi	Leatura			•	ita adala
	ving water in spring and char	nel. The wa	ter from the	spring f	lows do	wn a na	itural channe	el and eventual	ite visit. Ilv into Clover
)re	∍k.								.,
									Į.

SOILS									_4
Map Un	it Name	ZR - Zoate Rock	outcrop association - Zoate co	bbly loam	Drainage Class:	Well d	Irained		
(Series	and Phase):	4 to 15% slopes	· ,	· · · · · ·	Field Observations				
н ,	my (Subgroັເ		ls		Confirm Mapped Typ	oe?	Yes	<u>X</u>	No
Dustile	Description								
Depth	Description	:   Matrix Color	Mottle Colors	LM	ottle	Textu	re, Concre	tions.	
inches	Horizon	(Munsell Moist)	(Munsell Moist)		oundance/Contrast	1	ture, etc.		
	i,								
				┷					
	<u> </u>			+		1		<del></del>	
						1			
				+					
		i							
				1					
				Ш.	<u> </u>				
Hydric :	Soil Indicate			0	retions				
		istosol istic Epipedon			retions Organic Content in st	ırface I	aver in Sar	ndv Soi	ls
		ulfidic Odor			nic Streaking in Sand		ayor iii oai	ia, co.	
		quic Moisture Regime		Liste	d on Local Hydric Soi	ls List			
		educing Conditions			d on National Hydric S		t		
	G	leyed or Low-Chroma (	Colors	Othe	r (Explain in Remarks	·)			
Remark	s: No soil p	it excavated. Aquic mo	isture regime assumed	l. Su	Ifidic odor encountere	ed just b	y walking a	around	the
site.									
<u> </u>			<u> </u>						
WETLA	AND DETER	RMINATION							
Hydrophy	tic Vegetation	n Present? X Yes	No				No. 43.		
	Hydrology Pre		No No						
	oils Present?	X Yes		nplinç	g Point Within a Wetland	1?	<b>X</b> Yes		No
	A l	<del></del>	Hand daningtod by		oreton of conditor	. بدواانید	nid a vari	oty of	
		strine scrub-shrub we seous species. Due							
		specific boundaries of							
		tion if this site will be							
	J.		•						
									_



Project/Site: Yucca Mountain	Dail Comidan	FIG/ CC1	G			Deter		10.5	
Project/Site: Yucca Mountain Applicant/Owner: Bechtel-SA		E13/ C31	Segn	<u>nent</u>		Date:	5/25/		
	<u> </u>			<del></del>		County:	Linco	oln	
Investigator: PBS&J (JG/LB)						State:	NV		<del></del>
Do Normal Circumstances exist or	•	X	Yes		No	Communi	ty ID:	Palustrine ( remarks)	see final
Is the site significantly disturbed (A	- •	n)? X	Yes		No	Transect	ID:		<del></del>
Is the area a potential Problem Are	∍a?:		Yes	$\overline{\mathbf{X}}$	No	Plot ID:		WT-12	<del></del>
(If needed, explain on reverse.)									<del></del>
VEGETATION									
Dominant Plant Species S	Stratum Indi	cator		Domina	ant Pl	ant Species	5	Stratum	Indicator
1 *Juncus balticus I	I FAC	CW	9						
2 Mimulus guttatus I	I OBI	<u>,                                      </u>	10						
3 Juncus bufonius F	FAC	:W	11 -				-	··	
4 Hordeum jubatum F	I FAC	,	12					<del></del>	
5		<del></del>	13						·
6			14						
7			15						
8		······································	16			<u>-</u>			
Percent of Dominant (*) Species th	at are OBL EA	CIAL OF EA	C /2::2		- 4 0	1111			
ercent of boltmant ( ) Species (iii	at are OBL, FA	CW, or FA	C (exc	uaing i	-AC-		0% (at :	sample	
						point)	_		
Remarks:									
JUNBUF below berm of pond, but r	ot dominant. T	This SP loc	ated or	open-	wate	r (OW) stoo	ck pond	l edge; pond	and fringe
are comprised of <5% hydrophytic more as a special aquatic site with	the potential to	convert to	w not Wi	a w∟ a	s a r	esult of sma	ali WL v	/eg % cover	. Delineated
									- P
HYDROLOGY									
Recorded Data (Describ	,		Wetlar	nd Hydr	olog	y Indicators	•		
	ake, or Tide Ga	uge		Prima	ry Inc	dicators:			
X Aerial Pho	tographs					undated (po			
Other No Recorded Data Avail	abla			<u>X</u>		aturated in I	Jpper 1	2 Inches	
No necorded Data Avail	able			<u>X</u>	_	ater Marks			
Field Ohean etimes	· · · · · · · · · · · · · · · · · · ·				_	ift Lines			
Field Observations:				<u>X</u>		ediment Dep			
Depth of Surface Water:	DNA (ii	۱ ا		Cocon	Dr	ainage Pati	terns in	Wetlands	
Dopur or Corrace Water.	DNA (ii	n.)		Secon				ore required	•
Depth to Free Water in Pit:	Est. 2" (ir	ո.)			- Ox	(Idized Roo ater-Staine(	t Chanr	nels in Uppe	r 12 Inches
Departs 7 too trater in 1 it.	(filling)	"			VV	aler-Stame	Leave	es	
					- Lo	cal Soil Sur	vev Da	ıta	
Depth to Saturated Soil:	(ir	٦.)		X		C-Neutral 1		•••	
					_	her (Explair		marks)	
Remarks:						/le			
/drology sourced by developed sp	ring: water ente	ers nand vis	aama	n-mada	cha	nnol: no ou	tlat and	l no ocase = 4	ليحيا وانتوا
and bank (BB) or wetland to a JD wa	ater.	no pona vic	a ind	ii-iiiaUt	uid	ini <del>c</del> i, No ou	uet and	i no connect	ion via bed
, ,									8

SOILS												
Map Un	nit Name		soil data available.			age Class: Observations	No soil	data av	/ailable.			
, i	and Phase): my (Subgrou		soil data available.				rm Mapped Ty	/pe?		Yes	X	N
Profile Depth	Description:	Matrix C		Mottle Cole		Mottle				Concre	tions,	
inches	Horizon		ell Moist)	(Munsell M	√loist)	Abundan	nce/Contrast		cture,			
10"	A/B	7.5YR5/	1					Ulavi	elly si	ilt loam		
	ig.	l										
						T						
					<del></del>		<u> </u>	+				
				1							<del></del>	
Hydric Soil Indicators:  Histosol Concretions Histic Epipedon High Organic Content in surface Layer in Sandy Soils												
		istic Epipe ulfidic Ode					ic Content in s eaking in Sand			' IN Oai	nay oc	) IIS
	Ac	quic Mois	sture Regime			Listed on Lo	ocal Hydric Soi	ils List				
	Re	educing C	Conditions Low-Chroma (	Colore			ational Hydric ain in Remarks		st			
		eyeu oi i	_OW-Ullioma 、				dill ill i tomana	<u></u>				
Remarks Light gra excavati	ay color is the	e result o ing head	of soil developi I was develope	ing from the e	gray rock s water pon	substrate thatd was create	at was exposeded.	d w/ bla	asting	and/o	r	(1)
			#1				***					<u> </u>
	AND DETER				Т							
Wetland	ytic Vegetation Hydrology Pre oils Present?		$ \begin{array}{cc} (X) & \text{Yes} \\ \hline X & \text{Yes} \\ \hline X & \text{Yes} \end{array} $	No	Is this Sa	mpling Point \	Within a Wetlan	ıd?	X	Yes	_	No
Remark												-
											:	<u>.</u>
area (<5 extreme the circu	Stock-water pond has positive hydric soils and hydrology, however vegetation has only developed near the stream inflow area (<5% of pond and fringe), perhaps as a result of low inflow during normal years. The 2004-2005 winter was extremely wet which may account for the ponding and low vegetative cover. The "wetland" boundary was placed around the circumference of the ponded area to illustrate current conditions and though not technically a wetland because of the low WL vegetation cover is indeed a special aquatic site of high value in this desert environment.											
Cowardi	in Classificati	ion: Palui	strine, Emerge	ent								
			,									

Project/Site: Yucca Mountain	Rail Corridor EIS	V/CS1	Carr			Data	<i>5 10 5</i>	10.5	
Applicant/Owner: Bechtel-SAI	C C	6/ CS1	Segn	nent		Date: County:	5/25		
Investigator: PBS&J (JG/LB)				<del></del>		State:	Linc	oln	<del></del>
						State.	NV	<del></del>	·
Do Normal Circumstances exist or		X	Yes		No	Communi	ty ID:	Riverine/Pa (see final re	
Is the site significantly disturbed (A		X	Yes		No	Transect	D:		
Is the area a potential Problem Are	ea?:		Yes	X	No	Plot ID:		WT-13	
(If needed, explain on reverse.)									
VEGETATION	·								
<u> </u>	tratum Indicator			Domin	ant Pi	ant Species	5	Stratum	Indicator
1 * Juncus balticus H	1.10		9						
2 Mimulus guttatus H			10						
3 Juncus bufonius H			11						
4 * Hordeum jubatum H			12						
5 *Eleocharis palustris H			13						
6 Veronica americana H		<del></del>	14 _						······································
7 Ranunculus sp. H	OBL		15						
8			16 _						
Percent of Dominant Species that a	re OBL, FACW, or	FAC (e	xclud	ing FA	C-).	7/7 = 100	0%	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
HYDROLOGY									,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Recorded Data (Describe	e in Remarks):		Vetla	nd Hyd	rolog	y Indicators	•		
<del></del>	ke, or Tide Gauge	'	volla	_		licators:	•		
X Aerial Phot	•			X	-	undated (st	'mear		
Other				<u>X</u>		aturated in t		12 Inches	
No Recorded Data Availa	able			X	w	ater Marks			
E	<u> </u>	_			_ Dr	ift Lines			
Field Observations:				X	_ Se	diment Dep	osits		
Depth of Surface Water:	DNA (in.)			<u>X</u>	_ Dr	ainage Patt	erns in	Wetlands	
John of January Water.	(III.)			Secon				ore required)	
Depth to Free Water in Pit:	Est. 2" (in.) (filling)				– Wa	ater-Stained	Chanr Leave	nels in Uppe es	r 12 Inches
Depth to Saturated Soil:	2" (in.)			${x}$		cal Soil Sur C-Neutral 7		ıta	
					_	ner (Explain		marks)	
Remarks:						(=xpidir			
eveloped spring and outflow stream	ı: SP located on sid	ie of eta	ream	Bed 2	ft wie	to 2" door	Dool	manu kasa 1	
asted to open spring. Connected to	stock-water pond	but no	conne	ection t	o JD	water or we	tlands	may have be	en
<del>.</del>	•							-5.011 poliu.	

SOILS									
Map Un		No soil data available.			Drainage Class:	No soil dat	a available.	_	
n '	and Phase):			<u> </u>	Field Observation		V	**	
Taxonoi	my (Subgroເ	ip): No soil data available.	<u> </u>		Confirm Mapped	Type?	Yes ·	<u>X</u>	Ne
Profile	Description	·							
Depth	Description	Matrix Color	Mottle Col	ors	Mottle	Texture	, Concre	tions,	
inches	Horizon	(Munsell Moist)	(Munsell N		Abundance/Contrast	Structu			
0-3	A	10YR 5/2,3/3					n, small fr		!mm)
3-5	, A	10YR 2/2				Silt grav	elly loam		
5-7	В	10YR 3/2				Gravelly	/ loam		
7-10	В	7.5YR 4/4				Silty gra	vel (10-20	)mm)	
	<u> </u>								
Hydric :	H S R G	ors: istosol istic Epipedon ulfidic Odor quic Moisture Regime educing Conditions leyed or Low-Chroma C	Colors	H	oncretions igh Organic Content in Irganic Streaking in Sa Isted on Local Hydric S Isted on National Hydri Ither (Explain in Reman	ndy Soils Soils List c Soils List	yer in Sar	ndy So	oils
Aquic m developo streamb	oisture regin ment; strean ed because oil developm	ne assumed. Depth to wan has been excavated a of lack of soil depth (grapent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any lent at any layer to 10", lent at any layer to 10", lent at any layer to 10", lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any lent at any	nd side-cas avelly and po	t (unknown erhaps solid	how long ago). Hydric rock <6" deep). Entire	soil develop soil profile	oment po illustrate:	or in s lack	of
WETLA	AND DETE	RMINATION							
	ytic Vegetation		No						
Wetland	Hydrology Pre pils Present?		No No	Is this Sam	pling Point Within a Wetla	and? X	Yes _		No
Remark	<b>(S</b> :								
indicator insufficie aquic me	rs lacking at ent time to de oisture regin	o qualify as a wetland a a depth of 10" because evelop) that qualify this the assumed.	of man-mad wetland as '	de condition 'Atypical". S	s (excavation and lack Site was saturated at 2	of adequate	soil cove	er and/	/or ce -
Cowardi	in Classificat	tion: Riverine, Lower Pe	геппіаі, Ет	ergent; Palu	sume, Emergent				

No C	County: State: Communit	NV	oln		
No C	Communit	<del></del>			
Vo T			<del></del>		
Is the site significantly disturbed (Atypical Situation)? X Yes No Transect ID:  Is the area a potential Problem Area?: Yes X No Plot ID: WT-14					
10 F		D:			
	'lot ID:		WT-14		
nt Plan	t Species	<u> </u>	Stratum Indicator		
			Materia		
-alaay	Indicator	•			
	/ Indicator	rs:			
y Indica	ators:				
y Indica Inund		ream)	2 Inches		
y Indica Inund Satur	ators: dated (str	ream)	2 Inches		
Indica Inund Satur Wate Drift L	ators: dated (strated in Uer Marks Lines	ream) Jpper 1	2 Inches		
Indica Inund Satur Wate Drift L	ators: dated (stre rated in U er Marks Lines ment Dep	ream) Jpper 1			
y Indica Inund Satur Wate Drift L Sedin Draina	ators: dated (streated in Uer Marks Lines ment Deprage Patte dicators (2	ream) Jpper 1  posits erns in 2 or mo	Wetlands ore required):		
y Indica Inund Satur Wate Drift L Sedin Draind Ary Ind Oxidiz Water	ators: dated (strated in User Marks Lines ment Deplage Patte dicators (2 ized Root er-Stained	ream) Jpper 1  posits erns in 2 or mo t Chann Leave	Wetlands ore required): nels in Upper 12 Inches		
y Indica Inund Satur Wate Drift L Sedin Drain lary Ind Oxidiz Water Local FAC-N	ators: dated (streament of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the conte	ream) Jpper 1  posits erns in 2 or mo t Chann J Leave vey Dat	Wetlands ore required): nels in Upper 12 Inch os ta		
		C- 100%			

SOILS								
Map Un	it Name	No soil data available.			Drainage Class:	No soil data availab	ole.	
(Series	and Phase)	: 			Field Observations			
Taxono	my (Subgro	up): No soil data available.	-		Confirm Mapped Ty	ype? Ye	s X	Ne
	<u>Description</u>				1	T4 O		
Depth		Matrix Color	Mottle Col		Mottle	Texture, Con		
inches	Horizon	(Munsell Moist)	(Munsell M	ioist)	Abundance/Contrast	Structure, etc		1 6
0-3	A	10YR 3/2				Gravelly Silt le	oam, smai	i irags
		10775 010				(<1mm) Silt gravelly lo		
3-6	AB	10YR 3/2				Sin gravery ic	aiii	
7.0	D1	10YR 2/1				Silt sandy loan		
7-8	B1 B2	7.5YR 2.5/2				Silty gravelly l		rs (2
8-10	B2	7.51 K 2.3/2				cm)	ouiii , iiug	,5 (=
		1						
Hydric !	Soil Indicat	ors:						
i iyana (		listosol		(	Concretions			
		listic Epipedon			High Organic Content in s	surface Layer in	Sandy So	oils
		Sulfidic Odor			Organic Streaking in San		-	
		quic Moisture Regime			isted on Local Hydric So			
		Reducing Conditions		[	isted on National Hydric	Soils List		
		Gleyed or Low-Chroma (	Colors		Other (Explain in Remark	s)		
Remark	s:				ininal along soon and is und	licturbad: budric e	sile even i	n thịc
Low-chro	oma hydric la	yer at 7-8 inches. I his w	etiano appears	to be an or	iginal slope seep and is und	nsturbed, nydric st	Jus even i	" ""
"natural"	wettand are	minimal likely given soil	type constrain	18.				_
	·					<u> </u>		<u> </u>
WETL A	ND DETE	RMINATION						
								<del></del>
	tic Vegetatio		No					
	Hydrology Pr		No	la thia Can	anling Boint Within a Motlar	nd? X Ye	<b>.</b> C	No
Hydric So	oils Present?	X Yes	No	is this San	npling Point Within a Wetlar	nd? <u>X</u> Y∈		. 110
Remark	···		·	<del></del>				
nemair	15.							
Hydroph	vtic veg and	d hydrology strongly pre	sent. hydric	soil noted i	n one inch of the profile.			
, ,, 3, 5,	.,	,	· · · · · · · · · · · ·		•			
Cowardi	in Classifica	tion: Palustrine, Emerg	ent					
		_						
				· · · · · · · · · · · · · · · · · · ·				
						Approved by	HOUSAC	E 2/92

Project/Site: Yucca Mountain Rail Corridor EIS/ Oasis Valley	
Applicant/Owner: Bechtel-SAIC	Date: 01/16/2006
Investigator: PBS&J (BS&DB)	County: Nye
	State: Nevada
Do Normal Circumstances exist on the site:	X Yes No Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes X No Transect ID:
Is the area a potential Problem Area?:	Yes X No Plot ID: WT-15
(If needed, explain on reverse.)	
NOTE:	
VEGETATION	
Dominant Plant Species Stratum Indicator	Dominant Plant Species Stratum Indicator
1 Distichlis spicata (likely) H FAC+	9
2 Chrysothamnus nauseousus S NONE	10
3	11
4	12
5	13
6	14
7	15
	16
ercent of Dominant Species that are OBL, FACW, or FAC	C (excluding FAC-). 1/2= 50%
<u> </u>	
Remarks: Sparsely vegetated-mostly saltgrass (likely, no	seed head) and Chrysothamnus nauseousus
HYDROLOGY	
Recorded Data (Describe in Remarks):	
Stream, Lake, or Tide Gauge	Wetland Hydrology Indicators:
X Aerial Photographs	Primary Indicators:
Other	X Inundated
No Recorded Data Available	X Saturated in Upper 12 Inches Water Marks
<del></del>	Drift Lines
Field Observations:	Sediment Deposits
	Drainage Patterns in Wetlands
Depth of Surface Water: (in.)	Secondary Indicators (2 or more required):
	Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)	Water-Stained Leaves
Donth to Cohurch d Oc'l	Local Soil Survey Data
Depth to Saturated Soil: (in.)	FAC-Neutral Test
	Other (Explain in Remarks)
Remarks: Groundwater seep.	

SOILS						2 2 1
Map Un		No soil data available			Drainage Class:	No soil data available
l <b>`</b>	and Phase):				Field Observations	O Yes Ne
Taxonor	my (Subgrou	p): No soil data available			Confirm Mapped Typ	pe? Yes Nc(
	Description				\$ <b>6</b> - 141 -	Toyture Congretions
Depth		Matrix Color	Mottle Cold		Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
inches	Horizon	(Munsell Moist)	(Munsell M	·	Abundance/Contrast	
0-2	0		Gley 1	2.5 N		Silty Loam
2-8	³ A	2.5 Y 3/2				Silty Loam
8-16	В	2.5 Y 3/2	Gley 1 2.5 N		Few-distinct	Clayey Silty Loam
	X Si Ai	istosol istic Epipedon ulfidic Odor quic Moisture Regime educing Conditions leyed or Low-Chroma C		— H	oncretions igh Organic Content in so rganic Streaking in Sand sted on Local Hydric Soi sted on National Hydric S ther (Explain in Remarks	ls List Soils List
Remark	s: Soil pit d	ug in saturated area—N	lorth of seep	<b>).</b>		
WETLA	AND DETEI	RMINATION				
	ytic Vegetatio		No			
	Hydrology Pre pils Present?	esent? X Yes Yes	No No	Is this Sam	pling Point Within a Wetland	d? <u>X</u> Yes No
Remar	ks: Althoug	h not 100 percent on ve	getation wit	l hin seep are	ea, soils hydric and hydro	ology present. Photo 1 & 2
i L	_					

		tain Dail Ca	DIC C	. 1	_		5			The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon
Applic	ct/Site: Yucca Moun Portion of Ca			outhern			Date:	06/2	20/2006	
1 1-1	ant/Owner: Bechtel-						County:	T in a		<del></del>
Invest	igator: PBS&J (RRN		····				State:	Linc		<del></del>
							olate.	INEV	aua	
R	rmal Circumstances exi			X Yes		No	Commun	ty ID:		
	site significantly disturbe		ituation)? _	Yes	<u>X</u>	No	Transect	ID:		
1	area a potential Problem		_	Yes	<u>X</u>	No	Plot ID:		CCE-1	
(II I)	eeded, explain on rever	se.)						· · · · · · · · · · · · · · · · · · ·		
VEGE	TATION									
	ominant Plant Species	Stratum	Indicator		Domir	nant Pl	ant Species		Stratum	Indicator
1	Carex praegracilis	Н	FACW	-   9 -			<u> </u>	······································		
2	Juncus balticus	Н	FACW	10						
3	Distichlis spicata	Н	FAC+	11						
4	Iva axillaris	Н	FACW	12						
5			-	13						
6				-   14 _						
₈				_   15 _						
<u> </u>				- 16 -						
ercen	t of Dominant Species tl	hat are OBL, I	FACW, or FA	C (exclud	ng FA	C-).	4/4=100	%		······································
Remark	ks:									<del></del>
Scattere	d rabbitbrush and greasew	ood, not domir	ıant.							
	<del></del>									-
HYDR	OLOGY									
	Recorded Data (Des	scribe in Rem								
	Stroop		Recorded Data (Describe in Remarks):					:		
	Silean	,	Wetlar		_	y Indicators dicators:	:			
	Aerial	n, Lake, or Tid Photographs	,	Wetlar		ary Ind	•	);		
	Aerial Other	Photographs	,	Wetlar		ary Ind In Sa	dicators: undated aturated in		12 Inches	
X	Aerial Other	Photographs	,	Wetlar		ary Ind In Sa W	dicators: undated aturated in ater Marks		12 Inches	
	Aerial Other No Recorded Data A	Photographs	,	Wetlar		ary Ind In Sa W Di	dicators: undated aturated in ater Marks rift Lines	Upper	12 Inches	
	Aerial Other	Photographs	,	Wetlar		ary Ind In Sa W Di	dicators: undated aturated in ater Marks rift Lines ediment De	Upper posits		
Field Ot	Aerial Other No Recorded Data A	Photographs	de Gauge	Wetlar	Prima	ary Ind In Sa W Di Di Dr	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pal	Upper posits terns in	n Wetlands	eq),
Field Ot	Aerial Other No Recorded Data A	Photographs	,	Wetlar	Prima	ary Indian	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pat Indicators	Upper posits terns ir (2 or m	n Wetlands nore require	ed):
Field Ot	Aerial Other No Recorded Data A	Photographs Available	de Gauge	Wetlar	Prima	ary Index	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pat Indicators	Upper posits terns in (2 or m	n Wetlands nore require nnels in Up	ed): per 12 Inches
Field Ot	Aerial Other No Recorded Data A  Disservations:  epth of Surface Water:  epth to Free Water in Pit	Photographs Available	de Gauge	Wetlar	Prima	ary Index	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pat Indicators kidized Roc	Upper posits terns in (2 or m t Chan d Leav	n Wetlands nore require nnels in Up es	ed):
Field Ot	Aerial Other No Recorded Data A  Disservations:  epth of Surface Water:	Photographs Available	de Gauge	Wetlar	Prima	ary Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany In	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators kidized Roc ater-Staine cal Soil Su AC-Neutral	Upper posits terns in (2 or m it Chan d Leav rvey Da Test	n Wetlands nore require nnels in Up res ata	ed):
Field Ot	Aerial Other No Recorded Data A  Disservations:  epth of Surface Water:  epth to Free Water in Pit	Photographs Available	(in.)	Wetlar	Prima	ary Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany In	dicators: undated aturated in later Marks rift Lines lediment De lainage Pat Indicators kidized Roc ater-Staine cal Soil Su	Upper posits terns in (2 or m it Chan d Leav rvey Da Test	n Wetlands nore require nnels in Up res ata	ed):
Field Ot De De Remarks	Aerial Other No Recorded Data A  Disservations:  epth of Surface Water:  epth to Free Water in Pit  epth to Saturated Soil:  s:	Photographs Available	(in.)	Wetlar	Prima	ary Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany In	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators kidized Roc ater-Staine cal Soil Su AC-Neutral	Upper posits terns in (2 or m it Chan d Leav rvey Da Test	n Wetlands nore require nnels in Up res ata	ed):
Field Ot De De Remarks	Aerial Other No Recorded Data A  Disservations:  epth of Surface Water:  epth to Free Water in Pit  epth to Saturated Soil:	Photographs Available	(in.)	Wetlar	Prima	ary Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany In	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators kidized Roc ater-Staine cal Soil Su AC-Neutral	Upper posits terns in (2 or m it Chan d Leav rvey Da Test	n Wetlands nore require nnels in Up res ata	ed):
Field Ot De De Remarks	Aerial Other No Recorded Data A  Disservations:  epth of Surface Water:  epth to Free Water in Pit  epth to Saturated Soil:  s:	Photographs Available	(in.)	Wetlar	Prima	ary Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany Indiany In	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators kidized Roc ater-Staine cal Soil Su AC-Neutral	Upper posits terns in (2 or m it Chan d Leav rvey Da Test	n Wetlands nore require nnels in Up res ata	ed):

SOILS									4	
Map Unit N		Pg- Pahranaga	t silty clay loar	n, drained	Drainage Class:		oor to son	newna	at poor	
(Series and		T1	7 1 11 .		Field Observatio Confirm Mapped		)	Yes	X	No
Taxonomy	(Subgroup	): Fluvaquentic l	endoaquaiis		— Commit Mapped	ı ıyp <del>e</del> :		163		-
Profile Des	scription:									-
Depth		Matrix Color	Mottle Cold		Mottle		Texture, C		etions,	
inches H	orizon	(Munsell Moist)	(Munsell M	oist)	Abundance/Contras	st S	Structure,	etc.	<del></del>	
2	A	10YR 4/2					SIL	LTY C	LAY	
12	В	10YR 4/3					SIL	TY C	LAY	
			_							
Hydric Soi		rs: itosol		C	oncretions					
-		tic Epipedon			gh Organic Content i	in surfa	ace Layer	in Sa	ndy S	oils
-		fidic Odor		O	ganic Streaking in S	Sandy S	Soils		•	
		uic Moisture Regime	<b>}</b>		sted on Local Hydric					4
-		ducing Conditions	0-1		sted on National Hyd		s List			
-	GI6	eyed or Low-Chroma	Colors		her (Explain in Rema	arks)				<u> </u>
Remarks:										
No field indi	cators of h	ydric soils observed.								
WETLAND	DETER	MINATION		skoći siik sam ir						
Hydrophytic '	Vegetation	Present? X Ye								
Wetland Hyd				la thia Cama	oling Point Within a Wel	tland?		Voo	v	No
Hydric Soils	Present?	Ye	s X No	is this Samp	Ing Form within a we			Yes	<u>X</u>	- 110
Remarks:										
	· · · · · · · · · · · · · · · · · · ·						Approved	by HC	USAC	F 2/9

			,	
Project/Site: Yucca Mountain Rail Corridor EIS So	outhern		Date:	06/20/2006
Portion of Caliente Segment				00/20/2000
Applicant/Owner: Bechtel-SAIC		_	County:	Lincoln
Investigator: PBS&J (RRM & DB)		•	State:	Nevada
				Tievada
	X Yes	No	Communi	ty ID:
Is the site significantly disturbed (Atypical Situation)?	Yes X	No	Transect I	ID:
Is the area a potential Problem Area?:	Yes X	- No	Plot ID:	CCE-2
(If needed, explain on reverse.)		-		
		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		
VEGETATION				
Dominant Plant Species Stratum Indicator	Dom	inant P	lant Species	Stratum Indicator
1 Carex praegracilis H FACW	9			
2 Juncus balticus H FACW	10			
3 Eleocharis palustris H OBL	11			
4 Hordeum jubatum H FAC	12			
5	13			
6	14			
7	15		·	
8	16		<del></del>	-
Percent of Dominant Species that are OBL, FACW, or FAC				
Remarks:				
HYDROLOGY				
Recorded Data (Describe in Remarks):	Wetland Hy	drolog	y Indicators	
Stream, Lake, or Tide Gauge			dicators:	
Aerial Photographs		•	undated	
Other		X S	aturated in l	Upper 12 Inches
X No Recorded Data Available	_	W	ater Marks	
		Dı	rift Lines	
Field Observations:			ediment Dep	
Depth of Surface Water: (in.)		Dı	ainage Patt	terns in Wetlands
Depth of Surface Water: (in.)	Seco			(2 or more required):
Depth to Free Water in Pit: (in.)	_	— (;;	kidized Root	t Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)	_		ater-Stained	
Depth to Saturated Soil: (in.)	-		cal Soil Sur C-Neutral 1	
(III.)				
			⊓er (⊏xpiair	n in Remarks)
Remarks:				
Mud cracks, assumed saturated in the spring, live stock pugging.				

SOILS					
	it Name	•	silty clay loam, dra		Poor to somewhat poor
,	and Phase)			Field Observations	
Taxono	my (Subgro	up): Fluvaquentic Er	idoaqualis	Confirm Mapped Ty	ype? Yes X No
Profile	Description	 1:			
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.
5	A	10YR 4/2			SILTY CLAY
11	В	10YR 2/1			SILTY CLAY
		l	<u> </u>		
Hydric	Soil Indicat				
		listosol	<del></del>	Concretions High Organic Content in	surface Layer in Sandy Soils
		listic Epipedon Julfidic Odor		Organic Streaking in San	dy Soils
	A	quic Moisture Regime		Listed on Local Hydric Sc	oils List
		leducing Conditions		Listed on National Hydric	
	_X_ G	leyed or Low-Chroma	Joiors	Other (Explain in Remark	.5)
Remark	s:				
			<u> </u>		
		RMINATION			
	ytic Vegetatio	n Present? X Yes	No		
	Hydrology Proils Present?	esent? X Yes X Yes	No Is this	s Sampling Point Within a Wetlar	nd? X Yes No
Remark	KS:				
					,

¥-	
Project/Site: Yucca Mountain Rail Corridor EIS South	nern Date: 06/20/2006
Portion of Caliente Segment	39,29,200
Applicant/Owner: Bechtel-SAIC	County: Lincoln
Investigator: PBS&J (RRM & DB)	State: Nevada
Do Normal Circumstance with the th	
Do Normal Circumstances exist on the site:	Yes No Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes No Transect ID:
Is the area a potential Problem Area?:	Yes X No Plot ID: CCE-3
(If needed, explain on reverse.)	
VEGETATION	
Dominant Plant Species Stratum Indicator	Dominant Plant Species Stratum Indicator
1 Distichlis spicata H FAC+	Dominant Plant Species Stratum Indicator 9
2	10
3	11
4	12
5	13
6	14
7	15
8	16
Percent of Dominant Species that are ODL FACIAL FACIAL	
Percent of Dominant Species that are OBL, FACW, or FAC (extended to be seen as the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec	excluding FAC-). 1/1=100%
Non-dominants include scattered rabbitfoot grass & foxtail barley, a	and unknown 2 (small ground forb).
	Wetland Hydrology Indicators:
Stream, Lake, or Tide Gauge	Primary Indicators:
Aerial Photographs	X Inundated
Other X No Recorded Data Available	X Saturated in Upper 12 Inches
	Water Marks
Field Observations:	Drift Lines
	Sediment Deposits Drainage Patterns in Wetlands
Depth of Surface Water: (in.)	Secondary Indicators (2 or more required):
	Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)	Water-Stained Leaves
Dorable to Code words 10 th	Local Soil Survey Data
Depth to Saturated Soil: (in.)	FAC-Neutral Test
	Other (Explain in Remarks)
Remarks:	
Ponding and saturation obviously occur here early in the spring.	

SOILS											<del></del>
Map Uni		Pg- l	Pahranagat s	ilty clay loar	m, drained		age Class:	Poor t	o somewh	at poor	. 7
(Series a	and Phase):			· · · · · · · · · · · · · · · · · · ·			Observations	_			
Taxonor	ny (Subgrou	p): Fluv	aquentic End	doaqualls		Confir	m Mapped Ty	/pe? 	Yes	<u>X</u>	_ No 
Profile I	Description								_		
Depth inches	Horizon	Matrix Co (Munsell I		Mottle Cold (Munsell M		Mottle Abundan	ce/Contrast		ire, Concre ture, etc.	∍tions,	
3	Α	10Y	R 4/2						SILTY	CLAY	
11	В	7.5Y	′R 4/3						SILTY C	LAY	
Remarks Aquic mo	X Ac Re G	educing Co eyed or Lo	re Regime		(	Organic Stre isted on Lo isted on Na Other (Expla	ic Content in seaking in San beaking in San beal Hydric So ational Hydric ain in Remark	dy Soils oils List Soils Lis			(
WETLA	ND DETER	RMINATIO	)N		<del></del>		<del></del>				
Wetland I	rtic Vegetatior Hydrology Pre oils Present?		X Yes X Yes Yes	No No No No	Is this San	npling Point \	Within a Wetlar	nd?	XYes		_ No
This area the clayer amount of hydrolog	situation whe is irrigated fr y soil may sea f time (e.g., a y requirement	om the surfa il shut and in month) each s, but may r	ace, which ma nhibit the dow h year, which	y limit the for nward mover would be longough for redo	rmation of rement of water genough for a features to	edoximorphi r. In addition r hydrophyti develop. It	at field indicato ic features in the on, the irrigation ic vegetation to an addition, the	nis heavy on is likely o establish	soil type. I y turned on and to mee	For exar for a lite et the	mple mited

Pr	oject/Site: Yucca Mountain Rail Corrid		~ .							
' '				Date:	06/2	20/2006				
Ar	Portion of Caliente Segment plicant/Owner: Bechtel-SAIC									
1 '	vestigator: PBS&J (RRM & DB)						County:	Line		·
	rbs&J (RRIVI & DB)	<del></del>					State:	Nev	ada	
	Normal Circumstances exist on the site:		X	Yes		No	Communi	ty ID:		<del></del>
	the site significantly disturbed (Atypical Situa	ition)?	X	Yes		No	Transect	•		
ls t	the area a potential Problem Area?:	•		Yes	$\overline{\mathbf{X}}$	No	Plot ID:		CCE-4	
	(If needed, explain on reverse.)									
VE	GETATION									
		ndicator		T	Domir	ant D	ant Species		Chunh	1-10
1 Eleocharis palustris H OBL 9						iani i	ant opecies	-	Stratum	Indicator
2	Distichlis spicata H	FAC+	<del></del>	10						
3				11 -						<del>-</del>
4				12				<del></del>		<del>-</del>
5			_	13	<del></del>					
6			_	14			<del></del> .			
7				15	<del></del>					
8 -			_	16					··	
Per	cent of Dominant Species that are OBL, FAC	CW. or F	AC (e	xclud	na FA	C-)	2/2=100	0%		
	narks:					<del></del>		70		<del></del>
1	narks.									
<u> </u>							· - 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			
HYI	DROLOGY									
	Recorded Data (Describe in Remarks	s):	1	Wetlar	nd Hvo	irolog	y Indicators	•		***************************************
_	Stream, Lake, or Tide (	auge				-	dicators:	•		
	Aerial Photographs				Σ	•	undated			
	Other				<u> </u>		aturated in l	Jpper	12 Inches	
-	X No Recorded Data Available						ater Marks			
Fiole	1 Observations		.				ift Lines			
rieid	Observations:					Se	ediment Der	oosits		
	Depth of Surface Water:	(in.)			Seco	Ur	ainage Pati	erns ir	n Wetlands	1\-
		()			36601		Indicators (			
	Depth to Free Water in Pit:	(in.)				$-\widetilde{\mathbf{w}}_{i}$	ater-Stained	i Chan I Leav	meis in Op es	per 12 Inches
			-			_ _ Lo	cal Soil Sur	vey Da		
	Depth to Saturated Soil:	(in.)					C-Neutral 1			
							her (Explair		,	l
Rem	arks: Depressional topography. Evidence the	nat pond	ing a	nd soi	satur	ation (	occurred ea	rlier in	the year.	
<u> </u>									•	

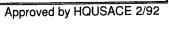
SOILS Map Un	it Name	Po- Pahranagat	silty clay loam, drained	Drainage Class:	Poor to se	omewhat	t poor	
	and Phase):	i g- i ainanaga	only only rount, dramed	Field Observations				
Taxonomy (Subgroup):		o): Fluvaquentic E	ndoaqualls	Confirm Mapped Ty	pe?	Yes -	<u>X</u> !	No
Profile	Description:							
Depth inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Structure	Concret e, etc.	ions,	
6	A	10YR 3/2				SILTY CL	_AY	
10	В	10YR 4/2				CLAY	r	
							_	
	<u> </u>							
•	oisture regime	assumed due to evidend	ce of hydrology.					
<del></del>	AND DETER		s No	· · · · · · · · · · · · · · · · · · ·			<del></del>	
Wetland	ytic Vegetation Hydrology Presoils Present?		No No	pling Point Within a Wetland	d? <u>X</u>	_ Yes _	1	No
This area the claye amount o hydrolog	situation wher i is irrigated from y soil may seal of time (e.g., a y requirements	om the surface, which n I shut and inhibit the do month) each year, whic	nay limit the formation of rownward movement of wate h would be long enough for mough for redox features to	o be met, but field indicator edoximorphic features in thi r. In addition, the irrigation to develop. In addition, the p	is heavy soil i is likely tui establish and	type. Fo med on fo d to meet	or examp or a limit the	le ted

Project/Site: Yucca Mountain Ra	Al Commission DIC	10 41			D. (	-		
Portion of Caliente		Souther	'n		Date:	06/2	21/2006	
Applicant/Owner: Bechtel-SAIC	segment		<del> </del>	_	Country	<u>, , , , , , , , , , , , , , , , , , , </u>		<del></del>
Investigator: PBS&J (RRM & SP	<u>G)</u>			-	County:	Line		
				_	State.	Nev	ada	
Do Normal Circumstances exist on th		XY	es	No	Commun	ity ID:		
Is the site significantly disturbed (Atyp	•	Y	es X	No	Transect	ID:		
Is the area a potential Problem Area?	:	Y	es X	No	Plot ID:		CCE-5	
(If needed, explain on reverse.)								
VEGETATION								
Dominant Plant Species Strat	um Indicator		Dor	ninant P	lant Species		Stratum	Indicator
1 Distichlis spicata	H FAC+	(	9					
	H FAC	1	0					
3 Carex praegracilis	H FACW	1	1					
	H FACW	1	2				· · · · · · · · · · · · · · · · · · ·	*
5		1	3					
6		1	4					
7		1						
8		1	6					
, comand,								
				. P.C. Elect				
HYDROLOGY	Remarks):	l W.	Nord I					
HYDROLOGY Recorded Data (Describe in	, .	We			y Indicators	S:		
HYDROLOGY Recorded Data (Describe in Stream, Lake,	or Tide Gauge	We		mary In	dicators:	S:		
HYDROLOGY Recorded Data (Describe in	or Tide Gauge	We		mary Ind	dicators: undated		12 Inches	
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogr	or Tide Gauge aphs	We		mary Ind X In	dicators:	Upper	12 Inches	
Recorded Data (Describe in Stream, Lake, Aerial Photogr Other X No Recorded Data Available	or Tide Gauge aphs	We		mary Ind X In X S	dicators: undated aturated in	Upper	12 Inches	
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother X No Recorded Data Available	or Tide Gauge aphs	We		mary Ind X Ind X S W D	dicators: undated aturated in ater Marks rift Lines ediment De	Upper posits		
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother  X No Recorded Data Available	or Tide Gauge aphs	- We	Pri: - - -	mary Ind X Ind X S W D Second	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pat	Upper posits terns ii	n Wetland	is
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother X No Recorded Data Available	or Tide Gauge aphs	We	Pri: - - -	mary Ind X Ind X S W D Solution	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pat	Upper posits terns in (2 or m	n Wetland ore requi	ls red):
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother  X No Recorded Data Available	or Tide Gauge aphs	- We	Pri: - - -	mary Indix S S W D Sondary	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pat Indicators xidized Roc	Upper posits terns ii (2 or m	n Wetland lore requi	is
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother X No Recorded Data Available Field Observations:  Depth of Surface Water:	or Tide Gauge raphs	We	Pri: - - -	mary Indix S No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1 No. 1	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators xidized Roc ater-Staine	Upper posits terns ii (2 or m ot Chan d Leav	n Wetland lore requi lnels in U _l es	ls red):
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother X No Recorded Data Available Field Observations:  Depth of Surface Water:	or Tide Gauge raphs	- We	Pri: - - -	mary Indix S N N N N N N N N N N N N N N N N N N	dicators: undated aturated in ater Marks rift Lines ediment De rainage Pat Indicators xidized Roc	Upper posits terns ii (2 or m ot Chan d Leav rvey Da	n Wetland lore requi lnels in U _l es	ls red):
Recorded Data (Describe in Stream, Lake, Aerial Photogrother  X No Recorded Data Available Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:	or Tide Gauge raphs  (in.)	We	Pri: - - -	mary Indix S N N N N N N N N N N N N N N N N N N	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators xidized Roc ater-Staine	Upper posits terns ii (2 or m ot Chan d Leav rvey Da Test	n Wetland lore requi linels in Up es ata	ls red):
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother X No Recorded Data Available Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:	or Tide Gauge raphs  (in.) (in.) (in.)		Pri	mary Indix S N N N N N N N N N N N N N N N N N N	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators xidized Roc ater-Staine local Soil Su AC-Neutral ther (Explai	Upper posits terns in (2 or m of Chan d Leav rvey Da Test n in Re	n Wetland lore requi linels in Up es ata marks)	ls red): oper 12 Inches
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother  X No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  Remarks:  Evidence of soil saturation and inundation en	or Tide Gauge raphs  (in.) (in.) (in.)		Pri	mary Indix S N N N N N N N N N N N N N N N N N N	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators xidized Roc ater-Staine local Soil Su AC-Neutral ther (Explai	Upper posits terns in (2 or m of Chan d Leav rvey Da Test n in Re	n Wetland lore requi linels in Up es ata marks)	ls red): oper 12 Inches
HYDROLOGY  Recorded Data (Describe in Stream, Lake, Aerial Photogrother X No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:	or Tide Gauge raphs  (in.) (in.) (in.)		Pri	mary Indix S N N N N N N N N N N N N N N N N N N	dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators xidized Roc ater-Staine local Soil Su AC-Neutral ther (Explai	Upper posits terns in (2 or m of Chan d Leav rvey Da Test n in Re	n Wetland lore requi linels in Up es ata marks)	ls red): oper 12 Inches

SOILS								
,	nit Name	0	silty clay loam, drained	Drainage Class:	Poor to so	mewha	poor	. (
,	and Phase):			Field Observations	•	\/	**	NI.
Taxono	my (Subgroi	up): Fluvaquentic En	doaqualls	Confirm Mapped Ty	pe?	Yes	<u>X</u>	No
Profile	Description	),						
Depth		Matrix Color	Mottle Colors	Mottle	Texture,		ions,	
inches_	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure	, etc.		
9.5	A	10YR 2/I				CLAY	7	
12	С	10YR 5/3				CLAY	<b>7</b>	
								-
<u> </u>	L			<u> </u>				
Remark	H	listosol listic Epipedon ulfidic Odor quic Moisture Regime educing Conditions aleyed or Low-Chroma (		Concretions  Iigh Organic Content in s  Organic Streaking in Sand  isted on Local Hydric Sol  isted on National Hydric  Other (Explain in Remarks	dy Soils ils List Soils List	er in Sar	ndy So	ils
		RMINATION						
Hydrophy	ytic Vegetatio Hydrology Pr	n Present? X Yes esent? X Yes	No No					
	oils Present?	X Yes		pling Point Within a Wetlan	d? <u>X</u>	Yes		No
Remark	KS:							
								ļ

Project/Site: Yucca Mountain Rail Co	. I DIG					72		
1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		South	nern			Date:	06/22/2006	
Portion of Caliente Segma Applicant/Owner: Bechtel-SAIC	ient			<del></del>		0	<del></del>	
Investigator: PBS&J (RRM & DB)	<del>_</del>					County:	Lincoln	
			<del></del> -	<del></del>		State:	Nevada	
Do Normal Circumstances exist on the site		X	Yes		No	Commun	ity ID:	
Is the site significantly disturbed (Atypical S	Situation)?		Yes	$\overline{X}$	No	Transect	ID:	
Is the area a potential Problem Area?:	•		Yes	X	No	Plot ID:	CCE-	6
(If needed, explain on reverse.)								
VEGETATION								
Dominant Plant Species Stratum	Indicator		T -	Domin	ant Di	lant Species	Chunh	1-2
1 Juncus balticus H	FACW		9	DOMIN	ani F		Stratum	Indicator
2 Scirpus maritimus H	OBL(NI)		10					
3 Carex praegracilis H	FACW		11			· · · · · · · · · · · · · · · · · · ·	~ ~	
4 Distichlis spicata H	FAC+		12					
5			13					
6	· · · · · · · · · · · · · · · · · · ·		14					· · · · · · · · · · · · · · · · · · ·
7		_	15					
8		_	16	· · · · · · · · · · · · · · · · · · ·				
Percent of Dominant Species that are OBL,	FACW or F	AC (e	xclud	ing FA	C-7	4/4=100	OI .	
					<del></del>	4/4-100	70	
Remarks: Aquatic macrophytes abundant, l	out not identi	ified.						
Of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se								
HYDROLOGY								
Recorded Data (Describe in Rem	arke).		Motio		rolos			
Stream, Lake, or Ti	,	'	vena		_	y Indicators dicators:	<b>):</b>	
Aerial Photographs	•			X	-	undated		
Other				$\frac{\Lambda}{X}$	_		Upper 12 Inche	\$
X No Recorded Data Available						ater Marks		_
					Dı	rift Lines		
Field Observations:					_ Se	ediment De	posits	
Depth of Surface Water: 18	(in )			S	_ Dr	ainage Pat	terns in Wetland	ds
Depth of Surface Water: 18	(in.)	ŀ		Secon			(2 or more requi	′
Depth to Free Water in Pit:	(in.)			-	- w	kiaizea Hoo ater-Staine	t Channels in U	pper 12 Inches
•	\/				_	cal Soil Sur		
Depth to Saturated Soil:	(in.)					C-Neutral		
<del></del>							n in Remarks)	
Remarks: Pond. Average depth estimated to	o be 18 inch	es on	day	of field			•	nond so the
welland imige is harrow. Shelving and stain!	ng of a post	at the	sout	h end o	of the	pond indica	ate the OHWM i	pona, so the
proximately 1.5 feet above the current wat	er elevation.							-
<b>7</b>								ł

SOILS									
	it Name	Ç	ilty clay loam, drained	Drainage Class: Poor to somewhat poor					
(Series	and Phase):			Field Observations					
Taxono	my (Subgroι	p): Fluvaquentic En	doaqualls	Confirm Mapped Ty	rpe? Yes X No	3,			
Profile	Description	:							
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.				
	3								
					1				
						$\neg$			
					İ				
1	<u> </u>								
Hvdric	Soil Indicate	ors:							
,		istosol		Concretions					
		istic Epipedon			surface Layer in Sandy Soils				
		ulfidic Odor		Organic Streaking in Sand					
		quic Moisture Regime		isted on Local Hydric So isted on National Hydric					
		educing Conditions leyed or Low-Chroma (		Other (Explain in Remarks					
	G	leyed of Low-Officina C			<u> </u>	-4			
Remark	s:			e de la compansión de describe	and her EACW and ODI. plants				
No soil p	oit necessary.	Aquic moisture regime as	ssumed - boundaries are d	istinct and the site is dominated	ated by FACW and OBL plants!	۸. آ			
WETLA	AND DETE	RMINATION							
Hydrophy	ytic Vegetatio	n Present? X Yes	No						
Wetland	Hydrology Pre	esent? X Yes	No						
Hydric So	oils Present?	X Yes	No Is this Sam	npling Point Within a Wetlan	d? X Yes No	)			
Damad									
Remark	KS: urea dominate	d by emergent vegetation	and aquatic macrophytes.	Banks are steep and the bo	oundary is distinct.				
ronucu a	irea dominate	d by emergent vegetation	and aquatic macrophytes.	Dumes are steep and are se					
						1			



Project/Site: Yucca Mountain Rail Corridor EIS S	outhern		Date:	06/22/2006
Portion of Caliente Segment				2000
Applicant/Owner: Bechtel-SAIC			County:	Lincoln
Investigator: PBS&J (RRM & DB)		<u> </u>	State:	Nevada
Do Normal Circumstances exist on the site:	Tr 1/			
Is the site significantly disturbed (Atypical Situation)?	X Yes	No	Commun	•
Is the area a potential Problem Area?:	Yes	X No	Transect	
(If needed, explain on reverse.)	Yes	X No	Plot ID:	CCE-7
( ) server, explain officerology				
VEGETATION				
Dominant Plant Species Stratum Indicator		Dominant P	lant Species	Stratum Indicator
1 Carex praegracilis H FACW	-   9 -			Straton mulcator
2 Agrostis stolonifera H FACW	10			
3 Juncus balticus H FACW	- 11 -		<del></del>	
4	-   12 -			
5	13		<del></del>	
6	-   14 -			
7	- ₁₅ -	<del></del>		
8	16	<del></del>		
ercent of Dominant Species that are OBL, FACW, or FAC			3/3=100	
HVDDOLOGV				
Recorded Data (Describe in Remarks):				
Stream, Lake, or Tide Gauge	Wetlar		y Indicators	:
Stream, Lake, or fide Gauge		Primary Inc		
Other			undated	Home and Other L
X No Recorded Data Available		%	aturated in t ater Marks	Upper 12 Inches
			rift Lines	
Field Observations:			ediment De	oosits
Death (O. C. W.)		Di	ainage Pati	terns in Wetlands
Depth of Surface Water: (in.)		Secondary	Indicators (	(2 or more required):
Depth to Free Water in Pit: (in.)		_X_ O:	kidized Roo ater-Stained	t Channels in Upper 12 Inches
			cal Soil Sur	
Depth to Saturated Soil: (in.)	1	X FA	C-Neutral 1	Test
		Ot	her (Explair	n in Remarks)
Remarks:			<del> </del>	
·				

SOILS						
Map Unit Name	Pg- Pahranagat s	ilty clay loam, drained	Drainage Class:	Poor to somewhat poor		
(Series and Phase):			Field Observations			
Taxonomy (Subgroup):	Fluvaquentic En	doaqualls	Confirm Mapped Ty	pe? Yes X No		
Profile Description:		1		1		
	latrix Color	Mottle Colors	Mottle	Texture, Concretions,		
inches Horizon (			Abundance/Contrast	Structure, etc.		
Δ.			Few, large, faint	CLAY		
12 A	7.51K <del>4</del> /1	7.5 TK 4/1		CLAT		
				-		
Hydric Soil Indicators						
	ucing Conditions ed or Low-Chroma (		isted on National Hydric in Standards (Explain in Remarks			
WETLAND DETERM	IINATION					
Hydrophytic Vegetation P Wetland Hydrology Prese Hydric Soils Present?		No No Is this Sam	pling Point Within a Wetland	d? X Yes No		
Remarks:						
nemains.						
•						
				Approved by HQUSACE 2/9		

Desirat/Ollar V M P 10 11 Pro C		T =	
Project/Site: Yucca Mountain Rail Corridor EIS Sout	hern	Date:	06/22/2006
Portion of Caliente Segment			
Applicant/Owner: Bechtel-SAIC Investigator: PBS&J (RRM & DB)		County:	Lincoln
Investigator: PBS&J (RRM & DB)	<del></del>	State:	Nevada
Do Normal Circumstances exist on the site:	Yes	No Communi	ty ID:
Is the site significantly disturbed (Atypical Situation)?	Yes X	No Transect I	ID:
Is the area a potential Problem Area?:	Yes X	No Plot ID:	CCE-8
(If needed, explain on reverse.)			
VEGETATION			
Dominant Plant Species Stratum Indicator	Domina	int Plant Species	Stratum Indicator
1 Distichlis spicata H FAC+	9		
2	10		
3	11		
4	12		
5	13		
6	14		
7	15		
8	16		
Percent of Dominant Species that are OBL, FACW, or FAC (	excluding FAC	C-). 100%	
Remarks:		-	
HYDROLOGY			
Recorded Data (Describe in Remarks):	Wetland Hydr	ology Indicators	•
Stream, Lake, or Tide Gauge		y Indicators:	
Aerial Photographs	X	Inundated	
Other	X		Upper 12 Inches
X No Recorded Data Available	·	Water Marks	
Field Observations:		Drift Lines	
rield Observations.		_ Sediment Dep	oosits terns in Wetlands
Depth of Surface Water: (in.)	Secon	_ Dramage Fall dary Indicators (	(2 or more required):
			t Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)		Water-Stained	
		_ Local Soil Sur	vey Data
Depth to Saturated Soil: (in.)		_ FAC-Neutral 1	Гest
		Other (Explair	n in Remarks)
Remarks:			
Depressional topography. Evidence of ponding and soil satur	ation earlier in	the growing sea	ason includes salt crust and
ud cracks.			

SOILS					/\					
Map Un	it Name	Gg-Geer silt lo	am-strongly saline	Drainage Class:	Moderately well drained.					
(Series	and Phase)			Field Observations						
Taxono	my (Subgro	up): Typic torriorth	ents	Confirm Mapped Typ	Confirm Mapped Type? Yes X No					
Profile	Description									
Depth	Description	T Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.					
		<del></del>	7.5YR 5/1		SILTY CLAY					
12	A	7.5YR 5/3	7.51 K 3/1	Abundant, large, distinct	SILTICLAT					
	_				ļ					
					<del> </del>					
	<u> </u>				<u> </u>					
Hydric S	Soil Indicat			0-2-2-1						
		listosol	<del></del>	Concretions High Organic Content in su	urface Layer in Sandy Soils					
		listic Epipedon Sulfidic Odor		Organic Streaking in Sand						
		iquic Moisture Regime	<u> </u>	Listed on Local Hydric Soil						
		Reducing Conditions		Listed on National Hydric S						
		aleyed or Low-Chroma	Colors	Other (Explain in Remarks						
Damada										
Remarks		e assumed due to the evi	dence of wetland hydrold	ngy observed at the site						
				il color was dominant. Howev	er, the 7.5 YR 5/3 color					
		prevalent and so was iden								
	_									
·	<del> </del>									
WETLA	ND DETE	RMINATION		1000						
Hydrophy	tic Vegetatio	n Present? X Yes	s No							
	Hydrology Pr									
Hydric Sc	oils Present?	X Yes	No Is this S	ampling Point Within a Wetland	l? X Yes No					
Remark			sh the field indicators of	hudria acila mara camambat am	shi angua. The guidance of					
				hydric soils were somewhat am	preponderance of evidence that					
		three parameters.	ere moist, and surrounds	ing upland sons dry, provided a	preponderance of evidence that					
the site di	ocs runnin an	unce parameters.								
					7					

Project/Site: Yucca Mountain Rail Corridor EIS Sou	ath own	····	Date:	06/00/0006
Portion of Caliente Segment	untern		Date.	06/22/2006
Applicant/Owner: Bechtel-SAIC			County:	Lincoln
Investigator: PBS&J (RRM & DB)			State:	Nevada
Do New JOS				Nevada
Do Normal Circumstances exist on the site:		No	Communi	- <del>-</del>
Is the site significantly disturbed (Atypical Situation)?	_ Yes <u>X</u>	No	Transect	ID:
Is the area a potential Problem Area?:	Yes <u>X</u>	No	Plot ID:	CCE-9
(If needed, explain on reverse.)				
VEGETATION				
Dominant Plant Species Stratum Indicator	Domi	nant P	ant Species	Stratum Indicator
1 Hordeum jubatum H FAC	9			Ottatom Maloator
2 Carex praegracilis H FACW	10			
3	11			
4	12			
5	13			
6	14			
8	15			
	16			
Percent of Dominant Species that are OBL, FACW, or FAC	(excluding FA	C-).	100%	
Remarks:				
		<u></u>		
HYDROLOGY				
Recorded Data (Describe in Remarks):	Wetland Hyd	drolog	/ Indicators	•
Stream, Lake, or Tide Gauge	Prima	•	licators:	
Aerial Photographs Other			undated	
X No Recorded Data Available		_ Sa	iturated in L ater Marks	Jpper 12 Inches
	<u></u>		ift Lines	
Field Observations:			diment Dep	oosits
Double of O. C. Marie		C Dr	ainage Patt	erns in Wetlands
Depth of Surface Water: (in.)	Seco	ndary	Indicators (	2 or more required):
Depth to Free Water in Pit: (in.)	_X	_ Ox	idized Root	Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)		_	ater-Stained	
Depth to Saturated Soil: (in.)		LO	cal Soil Sur C-Neutral T	vey Data
(,				in Remarks)
Remarks:				in nemarks)
Depressional topography created by the railroad berm. Water	er anneare to r	ond :	thic cros	<del></del>
Vale	vi appears to t		i iilis aiea.	

SOILS									
Map Unit N		Gg-Geer silt loar	n-strongly saline	Drainage Class:	Moderately well drained.				
(Series and		p): Typic torriorther		Field Observations Confirm Mapped Ty					
Taxonomy (	ype? Yes X No								
Profile Des	crintion	•							
Depth Des	SCHIPLIOTI	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
inches Ho	orizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.				
1101.00		7.5YR 5/3	5YR 5/4	Common, distinct	SILTY CLAY				
10	Α	7.3 I K 3/3	318 3/4	Common, distinct	0.2.1				
			6						
					\				
L			<u> </u>						
Hydric Soil	Hi Hi St Ad Re G	ors: Istosol Istic Epipedon Ulfidic Odor quic Moisture Regime educing Conditions leyed or Low-Chroma C	Colors	Organic Streaking in San	oils List : Soils List				
		RMINATION							
Hydrophytic '	Vegetation	Present? X Yes	No						
Wetland Hyd		esent? X Yes X Yes	No Is this S	ampling Point Within a Wetla	nd? X Yes No				
Hydric Soils	Present?		140 13 1113 0	amping rouse venture a vecta	<u>A</u> 100				
Remarks:									
					Approved by HQUSACE 2/92				

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

F	Project/Site: Yucca Mountain Rail Corri	dor EIS	Sout	hern			Date:	06/22/2006	
	Portion of Caliente Segmen	t						00/22/2000	
1	pplicant/Owner: Bechtel-SAIC						County:	Lincoln	
- I	nvestigator: PBS&J (RRM & DB)			-			State:	Nevada	
_							Julio.	Nevaua	
	o Normal Circumstances exist on the site:		X	Yes		No	Communi	ty ID:	
ls	the site significantly disturbed (Atypical Situa	ation)?		Yes	$\overline{X}$	No	Transect	•	
ls	the area a potential Problem Area?:			Yes	$\overline{X}$	No	Plot ID:	CCE-1	
L	(If needed, explain on reverse.)							_CCE-1	<u> </u>
	EGETATION								
	Dominant Plant Species Stratum I	ndicator	·	T	Domir	nant Pi	ant Species	Stratum	Indicator
1	Scirpus acutus H	OBL		9 -				Otratam	moleator
2	Typha latifolia H	OBL		10					
3	Carex nebrascensis H	OBL	<del></del>	11 -					
4		- ODE		12	·				
5				13			· · · · · · · · · · · · · · · · · · ·		
6				14 -				· <del></del>	·
7			-	_					
8			-	15					
				16 _			<del></del>		
Pe	rcent of Dominant Species that are OBL, FA	CW, or F	AC (e	exclud	ng FA	C-).	100%		
	marks:								
	is point should be just to the east of the rail.								
1	·								
<u> </u>									
148	VDDOL OOV								
HI	DROLOGY				_				
	Recorded Data (Describe in Remark	•	1	Vetlar	id Hyd	rology	/ Indicators		
	Stream, Lake, or Tide (	Gauge					icators:		
	Aerial Photographs				Х	. Inc	undated		
	Other					Sa	turated in L	Jpper 12 Inches	
	X No Recorded Data Available		1			Wa	ater Marks		
	101					Dri	ift Lines		
FIE	d Observations:		}			_ Se	diment Dep	osits	
	Depth of Surface Water					Dra	ainage Patt	erns in Wetlands	;
	Depth of Surface Water:	(in.)			Secor	ndary	Indicators (	2 or more require	ed):
	Denth to Free Water in Dit.					_ Ox	idized Root	Channels in Up	per 12 Inches
	Depth to Free Water in Pit:	(in.)				_ Wa	ter-Stained	Leaves	
	Denth to Saturated Salls	Carl					cal Soil Sur		I
	Depth to Saturated Soil:	(in.)			X	_	C-Neutral T		I
						_ Oth	er (Explain	in Remarks)	J
	narks:			···········					
Evic	ence of saturation and inundation drainage p	atterns.							

Man Ha					
į iviap Uli	it Name	. Gg-Geer silt loa	am-strongly salin		Moderately well drained.
(Series	and Phase):	-		Field Observations	
R '	my (Subgrou		ents	Confirm Mapped 1	Type? Yes X No
Laxons	, (2229/22	-JF			
Profile	Description	:			
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
inches	Horizon	(Munsell Moist)	(Munsell Mois	t) Abundance/Contrast	Structure, etc.
			1		
	<u> </u>				
	···				
Hydric	Soil Indicat			0	•
		istosol	_	Concretions	surface Lover in Sandy Sails
		istic Epipedon	-	High Organic Content in	surface Layer in Sandy Soils
		ulfidic Odor	_	Organic Streaking in Sa	ridy Solis Pollo Liet
		quic Moisture Regime	-	X Listed on Local Hydric S	o Spile List
	R	educing Conditions		Listed on National Hydri Other (Explain in Remai	
2	G				
I		leyed or Low-Chroma		Other (Explain in Hemai	K5)
Remark		eleyed of Low-Chroma		Other (Explain in Hemai	KS)
Remark	.s.				
Remark No soil p	.s.			is inundated. Aquic moisture regi	
Remark No soil p	.s.				
Remark No soil p	.s.				
Remark No soil p	.s.				
No soil p	es: oit necessary.	Site is dominated by OE			
No soil p	as: bit necessary.	Site is dominated by OE	BL vegetation and		
No soil p	AND DETE	Site is dominated by OE  RMINATION  n Present?XYes	BL vegetation and		
WETL: Hydroph Wetland	AND DETE ytic Vegetatio Hydrology Pro	Site is dominated by OE  RMINATION  n Present? X Yes esent? X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETL: Hydroph Wetland	AND DETE	Site is dominated by OE  RMINATION  n Present?XYes	BL vegetation and		me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	Site is dominated by OE  RMINATION  n Present? X Yes esent? X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	Site is dominated by OE  RMINATION  n Present? X Yes esent? X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.
WETLA Hydroph Wetland Hydric S	AND DETE ytic Vegetatio Hydrology Proils Present?	RMINATION  n Present?  ESENT?  X Yes X Yes	BL vegetation and	s inundated. Aquic moisture regi	me assumed.

# DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

						,			
Project/Site: Yucca Mountain Rail Corrie	dor EIS	South	nern			Date:	06/2	23/2006	
Portion of Caliente Segmen	t						00/2	.512000	
Applicant/Owner: Bechtel-SAIC						County:	Linc	oln	
Investigator: PBS&J (RRM & DB)						State:	Neva		
						Clair.	TVCV	aua	
Do Normal Circumstances exist on the site:		X	Yes		No	Communi	ty ID:		
Is the site significantly disturbed (Atypical Situa	ation)?		Yes	$\overline{X}$	No	Transect	ID:		
Is the area a potential Problem Area?:			Yes	$\overline{X}$	No	Plot ID:		CCE-11	
(If needed, explain on reverse.)									<del></del>
VEGETATION									
	ndicator		l	Domin	ant Di	ant Species		<u> </u>	
1 Carex praegracilis H	FACW	<del>-</del>	9	Domin	ani Fi	ani Species		Stratum	Indicator
2 Juncus balticus H	FACW	-	10		<del></del>				
3 Agrostis stolonifera H	FACW	-	11 -	·				<del></del>	
4	FACW		12					<del></del>	
5		-	_						<u>.</u>
6		-	13 14					·	
7		-	15 -			<del></del>			
8		_	16		·				
Percent of Dominant Species that are OBL, FAC		-	_	<del>-</del>					
	· · · · · · · · · · · · · · · · · · ·	<del></del>	<u>-</u>		<del></del>				
HYDROLOGY	T-17-11								
Recorded Data (Describe in Remark	•	V	Vetlar	nd Hydr	ology	Indicators			
Stream, Lake, or Tide (	Gauge			Prima	ry Ind	icators:			
Aerial Photographs Other					_	ındated			
X No Recorded Data Available					_ Sa	turated in U	Jpper 1	2 Inches	
		ļ			_	ater Marks			
rield Observations:						ft Lines			
				- <u>X</u>	_ Se	diment Dep	osits	Mana	
Depth of Surface Water:	(in.)				dary i	inage Patt ndicators (2	erns in 2 or ma	vvetlands	4/٠
	, ,	ļ		X					er 12 Inches
Depth to Free Water in Pit:	(in.)				- Wa	ter-Stained	Leave	ieis iii opp	er 12 inches
David L. O. a. a. a. a. a.					-	al Soil Sur			
Depth to Saturated Soil:	(in.)			X	FA	C-Neutral T	est		
					Oth	er (Explain	in Ren	narks)	
emarks:	<del></del>					• •			
<b>7</b>									

SOILS			*** <del>**********************************</del>			361	. 1 11	1	-
Map Uni	Name	Gg-Geer silt loan	m-strongly sa	line	Drainage Class:	Modera	tely well	draine	<b>a</b> (
(Series a	ind Phase):				Field Observations	a O	Von	W	No
Taxonon	ny (Subgrou	p): Typic torriorther	nts		Confirm Mapped Ty	pe?	_ Yes	<u>X</u>	-
D., 61- F	Na a a simble me								
	<u>Description:</u>	Matrix Color	Mottle Colo	rs	Mottle	Texture	e, Concre	tions,	
Depth inches	Horizon	(Munsell Moist)	(Munsell Mo		Abundance/Contrast		ire, etc.		
IIICHES							SILTY C	LAY	
0-1	Α	5YR 4/4		1.10					
	В	10YR 4/2	5YR	4/6	FEW, DISTINCT		SILTY C	LAY	
1-10		.011							<del>,</del>
1	ı								
ŀ									
						<del> </del>			
			<u> </u>						
I budala C	Sail Indiante	vro:							
riyunc s	Soil Indicate	stosol		C	Concretions				
		stic Epipedon		F	ligh Organic Content in s	surface La	yer in Sa	ndy So	oils
		ulfidic Odor			Organic Streaking in San	dy Soils			
	Ac	quic Moisture Regime			isted on Local Hydric So				7
	Re	educing Conditions			isted on National Hydric				(
	X G	eyed or Low-Chroma (	Colors		Other (Explain in Remark	s)			
Remarks	):								
	•								
	•								
		<u> </u>							
WETLA	ND DETER	RMINATION							
			No						
Metland I	tic Vegetatior Hydrology Pre		No						
	ils Present?	X Yes	— No	Is this San	npling Point Within a Wetlar	nd? X	Yes		No
riyana ac							<del></del>		<u>-</u>
Remark	s:								

Approved by HQUSACE 2/92

F	Project/Site:	Yucca Mount	ain Rail Co	rridor EIS	Sout	hern	<u> </u>		Date:	06/2	23/2006	
		Portion of Ca	liente Segm	ent						00/2	23/2000	
	Applicant/Ow	ner: Bechtel-S					<del></del>		County:	Line	coln	
l li	nvestigator:	PBS&J (RRM	1 & DB)						State:	Nev		
F	No Mormal Ci										<del>uuu</del>	<del></del>
	¥-7	rcumstances exis			<u>X</u>	Yes		No	Commun	-		
		nificantly disturbe		ituation)?		Yes	<u>X</u>	No	Transect	ID:		
		otential Problem				Yes	_X	No	Plot ID:		CCE-1	2
<u> </u>	(ir needed,	explain on revers	se.)		<del> </del>							
٧	EGETATIO	N										
	Dominant F	Plant Species	Stratum	Indicator		T	Domi	nant P	ant Species		Stratum	Indicator
1	Care	x praegracilis	Н	FACW		9						maicator
2	Jun	cus balticus	Н	FACW		10	······································					<del></del>
3	Agro	pyron repens	Н	FACU		11						
4	Agro	pyron smithii	Н	FACU	<del></del>	12						
5				····		13						
6						14						
7						15						· · · · · · · · · · · · · · · · · · ·
8						16	-					
Pe	ercent of Don	ninant Species th	at are OBI	FACW or F	AC (c	volud	ina EA	·C \	2/4=50%			
		<u> </u>	······································					··	214-30%			<del></del>
i HE	emarks:											
цv	/DROLOGY	•								<del></del>		
		orded Data (Des	oribo in Dom	arka).			****	· · · · ·				
			, Lake, or Tic	,		Wetlar			y Indicators	:	,	
			hotographs	ie Gauge			Prima	-	licators:			
		Other	nolographs				_		undated	laa au	40 (	
	X No F	Recorded Data A	vailable					S	iturated in l ater Marks	Jpper	12 Inches	
									ift Lines			
Fie	ld Observation	ons:		······································	-				diment Der	nneite		
							<u> X</u>	Dr	ainage Patt	erns ir	) Wetland	s
	Depth of S	Surface Water:	<del> </del>	(in.)			Seco	ndary	Indicators (	2 or m	ore requir	ed):
	Donath to F	Sana Martin de 1911						xO	idized Root	t Chan	nels in Up	per 12 Inches
	Depth to F	ree Water in Pit:	<del></del>	(in.)	i			_ Wa	ater-Stained	d Leave	es	
	Denth to S	Saturated Soil:		(! \					cal Soil Sur		ata	
	Deptil to 3	aturateu 3011.		(in.)					C-Neutral 7			
								_ Otl	ner (Explain	in Re	marks)	
	narks:										<del></del>	
EVIC	ience of soil si	aturation earlier in	the growing s	eason.								

SOILS  Man Unit Name Gg-Geer silt loam-strongly saline Drainage Class: Moderately well drained													
THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT													
(Series and Phase):				_			<b>.</b>						
Taxonomy (Subgroup	o): Typic torriorthen	nts	Confirm Mapped Ty	pe?	Yes _	<u>X</u>	No						
Profile Description:		l	a.a.,	Texture, 0	Concret	ione							
Joh	Matrix Color	Mottle Colors	Mottle	Structure,		10115,							
inches Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure,									
A A	10YR 4/2	5YR 4/6	FEW, DISTINCT CLAY										
0-10				-									
		-											
				<u> </u>									
Hydric Soil Indicato	irs:												
	stosol		Concretions High Organic Content in s	urface Lave	r in San	dy So	ile						
	stic Epipedon		_ High Organic Content in s	unace Laye	i iii Sai	iuy 30	113						
			Oursella Chroaling in Conc	tu Caila									
Su													
Su Aq	uic Moisture Regime	X		ils List			Ĩ						
Su Aq Re	quic Moisture Regime educing Conditions		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List			Ž						
Su Aq Re	uic Moisture Regime		Listed on Local Hydric Soi	ils List Soils List									
Su Aq Re	quic Moisture Regime educing Conditions		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List									
Su Aq Re X Gle	quic Moisture Regime educing Conditions		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List									
Su Aq Re X Gle	quic Moisture Regime educing Conditions		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List	<u>,</u>								
Su Aq Re X Gle	quic Moisture Regime educing Conditions		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List									
Su Aq Re X Gle	quic Moisture Regime educing Conditions		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List			(						
Su Aq Re X Gle	quic Moisture Regime educing Conditions		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List									
Remarks:	quic Moisture Regime educing Conditions eyed or Low-Chroma C		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List									
Su Aq Re X Gle	quic Moisture Regime educing Conditions eyed or Low-Chroma C		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List									
Remarks:	quic Moisture Regime educing Conditions eyed or Low-Chroma C		Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List									
Remarks:  WETLAND DETER  Hydrophytic Vegetation	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)									
Remarks:	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER  Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER Hydrophytic Vegetation Wetland Hydrology Pre	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER  Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER  Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER  Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						
Remarks:  WETLAND DETER Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present?	quic Moisture Regime educing Conditions eyed or Low-Chroma Conditions  RMINATION  Present? X Yes Yes Yes	ColorsNoNoNo	Listed on Local Hydric Soi Listed on National Hydric Other (Explain in Remarks	ils List Soils List s)	Yes		No						

## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

	<u> </u>	•					
Project/Site: Yucca Mountain Rai	l Corridor EIS S	outhern		Date:	06/2	3/2006	
Portion of Caliente S	egment				00/2	3,2000	
Applicant/Owner: Bechtel-SAIC			<del></del>	County:	Linc	oln	<del></del>
Investigator: PBS&J (RRM & DB	)		<del></del>	State:	Neva		
Do Normal Circumstances exist on the							
		X Yes	No	Commun	-		
Is the site significantly disturbed (Atypi Is the area a potential Problem Area?:		Yes	X No	Transect	ID:		
(If needed, explain on reverse.)	_	Yes	X No	Plot ID:		CCE-1	3
(ii needed, explain on reverse.)							<del></del>
VEGETATION							
Dominant Plant Species Stratu	um Indicator		Dominant P	ant Species		Stratum	Indicator
1 Eleocharis palustris	H OBL	-   9 -			`		Holcator
2 Distichlis spicata F	I FAC+	_   10 -					
3 Agrostis stolonifera I	I FACW	-   11 -					
4		12					
5		_   13 [_]		- · · · · · · · · · · · · · · · · · · ·			
6		_   14 _				<del></del>	
7		15			· -		
8		16					
ercent of Dominant Species that are C	BL FACW or FA	C (excludi	ng EAC \	3/3=100	nt .		
			g + 7.0 ).	3/3-100	70		
Remarks:							
			•				
HVDDOLOGY							
HYDROLOGY				- All			
Recorded Data (Describe in	,	Wetlar	d Hydrolog	•	:		
Stream, Lake,			Primary Inc	dicators:			
Aerial Photogra Other	apns						
				undated			
			Sa	aturated in t	Jpper 1	2 Inches	
X No Recorded Data Available			Sa	aturated in I ater Marks	Jpper 1	2 Inches	
X No Recorded Data Available			Sa W Dr	aturated in t ater Marks rift Lines		2 Inches	
X No Recorded Data Available			Sa W Dr Se	aturated in t ater Marks rift Lines ediment Dep	osits		
X No Recorded Data Available	(in.)		Sé W Dr Sé X Dr	aturated in t ater Marks rift Lines ediment Dep ainage Pati	oosits erns in	Wetlands	ed).
X No Recorded Data Available  ield Observations:  Depth of Surface Water:			Se W Dr Se X Dr Secondary	aturated in I ater Marks ift Lines ediment Dep ainage Patt Indicators (	oosits erns in 2 or me	Wetlands ore require	ed):
X No Recorded Data Available			Secondary	aturated in I ater Marks ift Lines ediment Dep ainage Patt Indicators (	oosits erns in 2 or me	Wetlands ore requirences in Up	ed): per 12 Inches
X No Recorded Data Available Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:	(in.) (in.)		Secondary  Ox  Lo	aturated in I ater Marks ift Lines ediment Dep ainage Patt Indicators ( kidized Roo ater-Stained cal Soil Sur	posits erns in 2 or mo t Chan d Leave vey Da	Wetlands ore requirences in Uppers	ed):
X No Recorded Data Available  Field Observations:  Depth of Surface Water:	(in.)		Secondary  Control  Secondary  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control	aturated in I ater Marks rift Lines ediment Dep ainage Patt Indicators ( kidized Room ater-Stained cal Soil Sur IG-Neutral 1	oosits erns in 2 or mo t Chan d Leave vey Da Test	Wetlands ore requirences in Uppers ta	ed):
X No Recorded Data Available Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:	(in.) (in.)		Secondary  Control  Secondary  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control	aturated in I ater Marks ift Lines ediment Dep ainage Patt Indicators ( kidized Roo ater-Stained cal Soil Sur	oosits erns in 2 or mo t Chan d Leave vey Da Test	Wetlands ore requirences in Uppers ta	ed):
X No Recorded Data Available Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:	(in.) (in.)		Secondary  Control  Secondary  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control	aturated in I ater Marks rift Lines ediment Dep ainage Patt Indicators ( kidized Room ater-Stained cal Soil Sur IG-Neutral 1	oosits erns in 2 or mo t Chan d Leave vey Da Test	Wetlands ore requirences in Uppers ta	ed):
X No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  Remarks:  Evidence of saturation	(in.) (in.)		Secondary  Control  Secondary  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control	aturated in I ater Marks rift Lines ediment Dep ainage Patt Indicators ( kidized Room ater-Stained cal Soil Sur IG-Neutral 1	oosits erns in 2 or mo t Chan d Leave vey Da Test	Wetlands ore requirences in Uppers ta	ed):
X No Recorded Data Available Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:	(in.) (in.)		Secondary  Control  Secondary  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control  Control	aturated in I ater Marks rift Lines ediment Dep ainage Patt Indicators ( kidized Room ater-Stained cal Soil Sur IG-Neutral 1	oosits erns in 2 or mo t Chan d Leave vey Da Test	Wetlands ore requirences in Uppers ta	ed):

SOILS							, 11	, .	<del>, </del>				
Map Unit		Gg-Geer silt loa	m-strongly sa	aline	Drainage Class:	Moderat	ely well	draine	<u>d 🛴</u>				
•	and Phase):				Field Observations								
Taxonom	ny (Subgrou	p): Typic torriorther	ats		Confirm Mapped Ty	/pe?	Yes 	_X_	. No				
Profile [	Description:	•											
Depth	Jesch ibrior	Matrix Color	Mottle Cold	ors	Mottle	Texture		etions,					
	Horizon	(Munsell Moist)	(Munsell M		Abundance/Contrast	Structur	e, etc.						
0-3	Α	7.5YR 5/4					SILTY C	LAY					
3-10	В	10YR 5/1					SILTY C	LAY					
	<u>.                                    </u>			9-11-7-11		<del></del>							
			-				<del> </del>						
								<del>-</del>					
Hydric 5	Soil Indicato	nre.											
Tryuno C		istosol			Concretions								
		istic Epipedon			High Organic Content in s		er in Sa	ndy So	oils				
		ulfidic Odor			Organic Streaking in Sand Listed on Local Hydric So								
		quic Moisture Regime educing Conditions			isted on Local Hydric 30				Ĵ				
		leyed or Low-Chroma (	Colors		Other (Explain in Remarks				(				
Remarks													
Sulfidic o	dor in B hori:	zon. Moist throughout so	oil profile.										
WETLA	ND DETER	RMINATION					·						
Hydrophy	tic Vegetation	n Present? X Yes	No										
	Hydrology Pre	esent? X Yes	No										
	ils Present?	X Yes	No	Is this Sam	npling Point Within a Wetlan	nd? X	_ Yes		No				
Remarks	<u>6.</u>			<u></u>									
Tioman	J.												

Approved by HQUSACE 2/92



## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

						,			
Project/Site: Yucca Mountain Ra	il Corridor EIS	Southe	ern	<del></del>	<del>*. •</del>	Date:	06/23	/2006	
Portion of Caliente S	Segment						00/23/	2000	
Applicant/Owner: Bechtel-SAIC		·				County:	Lincol		
Investigator: PBS&J (RRM & DB	3)					State:			
						State.	Nevad	la	
Do Normal Circumstances exist on the		X	Yes		No	Commun	ity ID:		
Is the site significantly disturbed (Atypi	ical Situation)?	,	Yes	$\overline{X}$	No	Transect			
Is the area a potential Problem Area?:			Yes	$\frac{1}{X}$	No	Plot ID:	_	CCE-1	
(If needed, explain on reverse.)						1 100 10.		CCE-1	+
						<u> </u>	<del></del>		<u> </u>
VEGETATION									
Dominant Plant Species Strate	um Indicator		West State	Domir	ant Pi	ant Species	Str	atum	Indicator
1 Distichlis spicata	H FAC+		9 -			<u> </u>			
2			10 -						<del></del>
3		<del>-</del>  .	11 -						
4			12 -					<del></del>	
5		<del></del>	13 [–]						
6			14 -						
7									
8			15 _						
			l6 _					····	
ercent of Dominant Species that are C	BL, FACW, or F	AC (exc	cludi	ng FA	C-).	1/1= 100	%		
Remarks:									· <u> </u>
HYDROLOGY						- 1811 - 1811 - 1811 - 18			<del></del>
HYDROLOGY									
Recorded Data (Describe in		W.	etlan	d Hyd	rology	/ Indicators	•		
Stream, Lake,						icators:			
Aerial Photogra	aphs					undated			•
Other V. No Parada I Day						turated in L	Jpper 12	Inches	
X No Recorded Data Available				_	Wa	ater Marks	• •		
E. I. O.		_			Dri	ft Lines			
Field Observations:					_ Se	diment Dep	osits		
Depth of Surface Water					_ Dra	ainage Patt	erns in W	/etiands	
Depth of Surface Water:	(in.)			Secon	dary I	Indicators (	2 or more	e require	ed):
Depth to From Water in Div.	*	1			Ox	idized Root	Channe		per 12 Inches
Depth to Free Water in Pit:	(in.)				_ Wa	iter-Stained	Leaves	, ,	_
Depth to Saturated Salls	,,					al Soil Sur			i
Depth to Saturated Soil:	(in.)				_ FA	C-Neutral T	est		i
					Oth	ıer (Explain	in Rema	ırks)	
Remarks:								•	
Salt Crust									ļ
									ĺ
									1
									1

SOILS					
Map Un	nit Name	Gg-Geer silt loan	n-strongly saline		Moderately well drained.
(Series	and Phase):	·		Field Observations	
, ,	my (Subgrou		its	Confirm Mapped Ty	ype? Yes X No
	Description	<u>;</u>	Lagaria Caloro	Mottle	Texture, Concretions,
Depth	· ,	Matrix Color	Mottle Colors		Structure, etc.
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abulluance/Contrast	
2 10	Α	7.5YR 5/4			SILTY CLAY
0-10	<del> </del>		<del> </del>		
			1		
			ĺ		!
			ĺ		
		<u></u>			
Lludrio	Soil Indicate	ore:			
пушть		listosol		Concretions	1
		listic Epipedon			surface Layer in Sandy Soils
		sulfidic Odor		Organic Streaking in San	ndy Soils
		quic Moisture Regime	<del></del>	Listed on Local Hydric Sc	oils List
	R	leducing Conditions		Listed on National Hydric	c Soils List
	G	aleyed or Low-Chroma C	colors	Other (Explain in Remark	(S)
D					
Remark	.s:				•
WETL	AND DETE	RMINATION			
Lydroph	ytic Vegetation	n Present? X Yes	No		
	Hydrology Pre	· · · · · · · · · · · · · · · · · · ·	No		
	Soils Present?	Yes	X No Is th	his Sampling Point Within a Wetla	nd? Yes X No
11901.00	Olio F 1000				
Remar	ks:				
Soils not	t even close. J	Evidence of cattle but no p	ugging. No other	plant species.	

Pr	oject/Site: Yucca Moun	tain Rail Co	rridor EIS	Southern			Date:	06/	23/2006	
1	Portion of Caplicant/Owner: Bechtel-		ent							
ľ					<del></del>		County:	Lin	coln	
	estigator: PBS&J (RRM	M & DB)					State:	Nev	⁄ada	
	Normal Circumstances exi			X Yes	1	Vo	Commun	ity ID:		
ls t	he site significantly disturbe	ed (Atypical S	Situation)?	Yes		No	Transect	-		<del></del>
	he area a potential Problen			Yes		No	Plot ID:		CCE-1	5
	If needed, explain on rever	se.)	- <del> </del>						_CCD-1	<u> </u>
VF	GETATION									
	Dominant Plant Species	Stratum	Indicator		Domina	nt Di	ont Coosies		<u> </u>	
1	Carex praegracilis	Н	FACW	_   ₉ -	Domina		ant Species		Stratum	Indicator
2	Agropyron smithii	— <u> </u>	FACU	- l ₁₀ -			<del></del>			
3	Alopecurus pratensis	Н	NI	-   ii -					<del>-</del>	
4	Juncus balticus	Н	FACW	-   ₁₂ -						
5	Puccinella lemonii	Н	FAC	₁₃ -						
6 _				- ₁₄ -					<del></del>	
7 -				_   15 -						
8 _	<del> </del>			16						
Perc	ent of Dominant Species th	nat are OBL.	FACW or F	AC /excludi	na EAC	<u> </u>	3/4= 759	7		
НУС	PROLOGY					<del></del>		-		
	Recorded Data (Des	cribe in Rem	arks):	Wetlar	d Hydro	logy	Indicators		·	
	Stream	n, Lake, or Tic	de Gauge		Primary			•		
	Aerial I	Photographs					ındated			
	X No Recorded Data A	voilable				Sa	turated in l	Jpper	12 Inches	
_		wallable					ater Marks			
Field	Observations:						ft Lines			
						Dra	diment Der ainage Patt	OSITS erne ir	n Wetlanda	ı
	Depth of Surface Water:		(in.)		Seconda	ary I	ndicators (	2 or m	ore require	ed):
	Donth to Eroo Water in Bit	_				Oxi	dized Roo	Chan	nels in Up	per 12 Inches
	Depth to Free Water in Pit	<del></del>	(in.)			Wa	ter-Stained	Leav	es	
	Depth to Saturated Soil:		(in.)				al Soil Sur		ata	
	•		<del></del> '''''				C-Neutral T			•
Rema	rks.						er (Explain	ııı Ke	marks)	
	gging but have evidence of co e.	ws. Phooing a	vident in oth	er locations	For this	<b></b>				
iis sit	e.		· · · · · · · · · · · · · · · · · · ·	or iocations.	TOI IUIS	i caso	on wetland l	iydrolc	gy is likely	not present at
Ø										
_										

SOILS					Drainage Class:	Poorly drain	and to	come	wha
Map Uni	t Name	Pe- Pahranaga	t silty clay loan	1	Dramage Glass.	poorly drain		SOME	wiia
/Series a	and Phase):				Field Observations				
•	ny (Subgrou		ndoaqualls		Confirm Mapped Ty	/pe? `	Yes	X	No
TUXOTION		714.44							<u> </u>
	Description		1		1 84-141-	Toytura C	oncreti	ione	
Depth		Matrix Color	Mottle Cold		Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
inches	Horizon	(Munsell Moist)	(Munsell M						
0-10	Α	10YR 4/3	FEW to COMMON, DISTINCT	SIL	TY CL	AY			
0.10									
					:				
						<u> </u>			
Hudria 9	Soil Indicat	ore:							
riyunc		istosol		(	Concretions				
		istic Epipedon	•		ligh Organic Content in	surface Layer	in San	dy So	oils 
	s	ulfidic Odor		(	Organic Streaking in San	dy Soils			
	A	quic Moisture Regime	9		isted on Local Hydric So isted on National Hydric				1
	H	educing Conditions leyed or Low-Chroma	a Colore	;	Other (Explain in Remark	(S)			
L.		neyed of Low-Chilonia	a Colors		other (Explain in Homaii				
Remark	s:								
:									
WETLA	ND DETE	RMINATION		<u> </u>					
Hydrophy	tic Vegetatio	n Present? X Ye							
Wetland	Hydrology Pr	esent? Ye			an and a sadder to sadden to	10	V	37	No
Hydric So	oils Present?	Ye	es X No	Is this Sar	npling Point Within a Wetla	no?	Yes -	<u>X</u>	No_
Domori	<u> </u>								
Remark	(S. a evidence of	wetland hydrology or	hydric soils.						
INO Strong	g cyluchec of	wothand nydrology or	,						
					•				
									1
						Approved	by UO	TEAC	·F 0/ 1

	tain Rail Con		Southern			Date:	06/2	24/2006	
Portion of Ca	aliente Segme						30/2	- 1, 2000	
Applicant/Owner: Bechtel-						County:	Line	coln	·
nvestigator: PBS&J (RRM	M & DB)					State:	Nev	ada	
Do Normal Circumstances exi			X Yes		No	Commun	ity ID:		·-
s the site significantly disturbe		tuation)?	Yes	X	No	Transect	•	<del></del>	
s the area a potential Problem	X	No	Plot ID:		CCE-1	6			
(If needed, explain on rever	rse.)	<del>-</del>							
EGETATION									
Dominant Plant Species	Stratum	Indicator		Domi	nant P	lant Species		Stratum	Indicator
Juncus balticus	Н	FACW	_ 9						······
Agropyron smithii	Н	FACU	_   10						
Carex nebrascensis	Н	OBL	_   11						
			_   12						
			_   13						
		·	_   14 .						
		· · · · · · · · · · · · · · · · · · ·	-   15   16 -						
			_   -						
ercent of Dominant Species the street of Dominant Species the street has been heaven been beautiful to the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street				ling FA	AC-).	2/3= 66	%		
emarks: The site has been heav				ling FA	AC-).	2/3= 66	%		
emarks: The site has been heav	vily used by cattl	le (i.e., trails	, grazed).		,				
Pomarks: The site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been heaved by the site has been hea	rily used by cattl	le (i.e., trails	, grazed).	nd Hy	drolog	y Indicators			
YDROLOGY  Recorded Data (Des	rily used by cattl scribe in Rema n, Lake, or Tide	le (i.e., trails	, grazed).	nd Hy	drolog ary Inc	y Indicators			
YDROLOGY  Recorded Data (Des Strean Aerial Other	scribe in Reman, Lake, or Tide	le (i.e., trails	, grazed).	nd Hy	drolog ary Ind	y Indicators dicators: undated	<b>3</b> :	12 Inches	
YDROLOGY  Recorded Data (Des	scribe in Reman, Lake, or Tide	le (i.e., trails	, grazed).	nd Hy	drolog ary Inc Inc Sa W	y Indicators dicators: undated aturated in dater Marks	s: Upper	12 Inches	
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A	scribe in Reman, Lake, or Tide	le (i.e., trails	, grazed).	nd Hy	drolog ary Inc In Sa W	y Indicators dicators: undated aturated in ater Marks rift Lines	s: Upper	12 Inches	
YDROLOGY  Recorded Data (Des Strean Aerial Other	scribe in Reman, Lake, or Tide	le (i.e., trails	, grazed).	nd Hyo	drolog ary Ind In Sa W Dr	y Indicators dicators: undated aturated in later Marks rift Lines ediment De	s: Upper		
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A	scribe in Reman, Lake, or Tide	le (i.e., trails	, grazed).	nd Hyd Prim	drolog ary Ind In Sa W Dr Se K Dr	y Indicators dicators: undated aturated in fater Marks rift Lines ediment De rainage Pat Indicators	s: Upper posits terns ir (2 or m	n Wetlands ore requir	ed):
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A	scribe in Rema n, Lake, or Tide Photographs Available	le (i.e., trails urks): e Gauge	, grazed).	nd Hyd Prim	drolog ary Ind In Sa W Dr Se K Dr Indary	y Indicators dicators: undated aturated in fater Marks rift Lines ediment De rainage Pat Indicators kidized Rocater-Staine	posits terns ir (2 or m t Chan d Leave	n Wetlands ore requir nels in Up es	s ed): per 12 Inch
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data Aerid Des Stream No Recorded Data Aerid Observations:  Depth of Surface Water:	scribe in Rema n, Lake, or Tide Photographs Available	le (i.e., trails urks): e Gauge (in.) (in.)	, grazed).	nd Hyd Prim	drolog ary Inc In Sa W Dr Se K Dr Indary W	y Indicators: dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators kidized Roc ater-Staine cal Soil Su	posits terns ir (2 or m t Chan d Leav rvey Da	n Wetlands ore requir nels in Up es	ed):
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data Aerial Des Depth of Surface Water in Pit	scribe in Rema n, Lake, or Tide Photographs Available	le (i.e., trails urks): e Gauge	, grazed).	nd Hyd Prim	drolog ary Ind In Sa Dr Se C Dr Indary C Ox	y Indicators dicators: undated aturated in ater Marks rift Lines ediment De ainage Pat Indicators kidized Rocater-Staine cal Soil Sui	posits terns ir (2 or m t Chan d Leav rvey Da Test	n Wetlands ore requir nels in Up es ata	ed):
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data Aerial Depth of Surface Water:  Depth to Free Water in Pit Depth to Saturated Soil:	scribe in Rema n, Lake, or Tide Photographs Available	le (i.e., trails urks): e Gauge (in.) (in.)	, grazed).	nd Hyd Prim	drolog ary Ind In Sa Dr Se C Dr Indary C Ox	y Indicators: dicators: undated aturated in later Marks rift Lines ediment De rainage Pat Indicators kidized Roc ater-Staine cal Soil Su	posits terns ir (2 or m t Chan d Leav rvey Da Test	n Wetlands ore requir nels in Up es ata	ed):
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data Aerial Depth of Surface Water:  Depth to Free Water in Pit Depth to Saturated Soil:	scribe in Reman, Lake, or Tide Photographs Available	irks): e Gauge  (in.)  (in.)	wetla	nd Hyder Prim	drolog ary Inc In Sa W Dr Se C Dr Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C	y Indicators dicators: undated aturated in fater Marks rift Lines ediment De rainage Pat Indicators kidized Roo ater-Staine cal Soil Su AC-Neutral her (Explain	posits terns ir (2 or m t Chan d Leaver rvey Da Test n in Re	n Wetlands ore requir nels in Up es ata marks)	ed): per 12 Inch
YDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data Aerial Depth of Surface Water:  Depth to Free Water in Pit Depth to Saturated Soil:	scribe in Rema n, Lake, or Tide Photographs Available t:	irks): e Gauge  (in.)  (in.)	wetla	nd Hyder Prim	drolog ary Inc In Sa W Dr Se C Dr Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C Ox Indary C	y Indicators dicators: undated aturated in fater Marks rift Lines ediment De rainage Pat Indicators kidized Roo ater-Staine cal Soil Su AC-Neutral her (Explain	posits terns ir (2 or m t Chan d Leaver rvey Da Test n in Re	n Wetlands ore requir nels in Up es ata marks)	ed): per 12 Inch

Map Un	O Unit Name Pa –Pahranagat silt loam, drained, strongly saline			ined,	Drainage Cla		Poorly to a	somew	hat po	orly.	
,	and Phase):		<del></del>			Field Observ		.2	Yes	X	No
Taxonoi	my (Subgro	.ip): <u>Ty</u>	pic torriorth	ents		Commin wap	Confirm Mapped Type? Yes X				
	Description	1; T		L Martin Oala		Mattle	1	Texture,	Concre	ations	
Depth inches	Horizon	Matrix C (Munsel		Mottle Cold (Munsell M		Mottle Abundance/Con	trast	Structure		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Inches	A		YR 4/3	5YR		FEW, DISTIN	NCT	S	ILTY C	LAY	_
0-10						<u> </u>					
		L					L				
•	X A  X F  Constitute regiments	leducing C aleyed or L e assumed.	or ture Regime Conditions _ow-Chroma			High Organic Cont Organic Streaking Listed on Local Hy Listed on National Other (Explain in R	in Sandy dric Soils Hydric So	Soils List	r in Sa	ndy Sc	DIIS
	AND DETE						<del></del>				
Wetland	ytic Vegetation Hydrology Procils Present?		X Ye X Ye X Ye	s No	Is this Sa	npling Point Within a	ı Wetland?	<u> </u>	Yes		No_
Remark the dito	ks: The sit th receives	e is some enough v	ewhat ques water to ful	tionable, but t fill the wetland	the prepo d hydrolo	nderance of evid gy and hydric soi	ence su I parame	ggests the	at this	portion	on of
					<u>.</u>			Approve	d by HC	DUSAC	E 2

#### **DATA FORM** ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site: Yucca Mount	oin Doil Co		.1		T 5		
Portion of Ca			outhern		Date:	06/24/2006	
Applicant/Owner: Bechtel-		iciit	<del></del>	<u></u>	Country	<del></del>	
Investigator: PBS&J (RRM					County:	Lincoln	
					State.	Nevada	
Do Normal Circumstances exis			X Yes	No	Commun	nity ID:	
Is the site significantly disturbe	d (Atypical S	Situation)? $\overline{}$	Yes	X No	Transect	ID:	
	s the area a potential Problem Area?:  Yes X						7
(If needed, explain on revers	e.)						
VEGETATION							
Dominant Plant Species	Stratum	Indicator		Dominant Pl	ant Species	Ctuatura	1.0
1 Juncus balticus	Н	FACW	-   9 -	- Dominiant 1	ant opecies	Stratum	Indicator
2 Carex praegracilis	Н	FACW	-   10 -				
3 Agropyron repens	H	FACU	-   11 -				
4 Puccinellia lemmonii	Н	FAC	-   12 -				
5 Potentilla anserina	Н	OBL	13				
6			14				
7			15				<del></del>
8			16				
HYDROLOGY							
Recorded Data (Des	cribe in Rem	arks):	Wetlar	nd Hydrology	/ Indicators	` <u> </u>	
	, Lake, or Tid	de Gauge		Primary Ind			
	hotographs				undated		
Other X No Recorded Data A	zailahla					Upper 12 Inches	
	ranabic				ater Marks		
Field Observations:		<del></del>			ift Lines		
				Dra	diment De _l ainage Pat	posits terns in Wetlands	
Depth of Surface Water:		(in.)		Secondary	Indicators (	(2 or more require	ed):
Depth to Free Water in Pit:				_X_ Ox	idized Roo	t Channels in Upp	
Deput to Flee Water III Pil.		(in.)		Wa	ter-Staine	d Leaves	
Depth to Saturated Soil:		(in.)		Loc	cal Soil Sur	rvey Data	1
	<del></del>	("".)			C-Neutral 7		
Remarks:			<u> </u>		ei (Expiaii	n in Remarks)	
Evidence of soil saturation earlier (yay).	in the growi	ng season. Ir	nundation	3 inches low	er in eleva	ation observed ne	arby (15 ft

SOILS		<u>, , , , , , , , , , , , , , , , , , , </u>	······································	During a Classi	Decade to somewhat poorly
Map Uni	t Name	Pa –Pahranaga strongly saline	silt loam, drained,	Drainage Class:	Poorly to somewhat poorly drained
(Sorios s	ınd Phase):			Field Observations	
•	ny (Subgrou	o): Fluvaquentic E	Confirm Mapped Type	pe? Yes X No	
ιαλυποπ	iy (Odbgrod	7 Tavaquentie E	naoaquano		
Profile [	Description:		1	Lastin	I Turking Compations
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions, Structure, etc.
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	
0.10	Α	10YR 4/3	5YR 4/3	COMMON, FAINT	SILTY CLAY
0-10					·
Hydric S	Soil Indicate			O a manatiama	
		stosol	<del>4</del>	_ Concretions	surface Layer in Sandy Soils
		stic Epipedon Ilfidic Odor		Organic Streaking in Sand	ty Soils
		illidic Odor Juic Moisture Regime		Listed on Local Hydric Soi	ils List
		educing Conditions		Listed on National Hydric	Soils List
		eyed or Low-Chroma	Colors	Other (Explain in Remarks	3)
Remarks	·				
Mottling	s. starts at 7 inc	hes. Found 10YR 4/3 s	oils in nearby saturated	conditions. Aquic moisture reg	gime assumed.
Motting	starts at 7 mile		•	-	
·····					
	NO DETE	NAINI A TIONI			
WEILA	ND DETE	RMINATION		· · · · · · · · · · · · · · · · · · ·	
	rtic Vegetation				
	Hydrology Pre	esent? X Ye		Sampling Point Within a Wetlan	nd? X Yes No
Hydric Sc	oils Present?	X Ye	s No Is this	Sampling Follit Within a Wettan	d? X Yes No
Remark	·c·				
rteman	.J.				
	<del></del>				Approved by HQUSACE 2/9

## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site: Yucca Mountain Rail Corridor El Portion of Caliente Segment	S South	em		Date:	06/24/	2006	
Applicant/Owner: Bechtel-SAIC			_	Country			
nvestigator: PBS&J (RRM & DB)				County: State:	Lincol		· · · · · · · · · · · · · · · · · · ·
<u> </u>		· · · · · · · · · · · · · · · · · · ·	<del></del>	State:	Nevad	<u>a</u>	
Do Normal Circumstances exist on the site:		Yes	No	Commun	ity ID:		
s the site significantly disturbed (Atypical Situation)?	X No	Transect	ID:				
s the area a potential Problem Area?:	Yes	X No	Plot ID:		CCE-18	3	
(If needed, explain on reverse.)							
EGETATION			•				
Dominant Plant Species Stratum Indicate	or	Do	minant P	lant Species	Str	atum	Indicator
Distichlis spicata H FAC	+	9					·
		10					···
		11				<del></del> -	
		12					<del></del>
		13					
·		14					
		15					
	i	16					
	r FAC (ex	ccluding	FAC-).	1/1= 100	9%		
emarks:	r FAC (ex	cluding	FAC-).	1/1= 100	9%		
marks:							
PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARKS:  PMARCH PMARCH PMARKS:  PMARCH PMARCH PMARKS:  PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH PMARCH	W	/etland l	Hydrolog	y Indicators			
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POROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other  X No Recorded Data Available	W	/etland l	Hydrolog imary Ind In Si W	y Indicators dicators: undated aturated in I		Inches	
Stream, Lake, or Tide Gauge Aerial Photographs Other	W	/etland l	Hydrolog imary Ind In So W Di	y Indicators dicators: undated aturated in I dater Marks rift Lines ediment Dep	: Jpper 12		
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POROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available  eld Observations:  Depth of Surface Water: (in.)	W	/etland I Pr	Hydrolog imary Ind In Si W Di Condary X Co	y Indicators dicators: undated aturated in I dater Marks rift Lines ediment Dep rainage Patt Indicators ( kidized Roo	Jpper 12 posits erns in W 2 or more t Channel Leaves vey Data	/etlands e require ls in Upp	ed):
POROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available  Pld Observations: Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	W	/etland I Pr	Hydrolog imary Ind Si W Di Se Di condary X W Lo	y Indicators dicators: undated aturated in later Marks rift Lines ediment Deprainage Patt Indicators ( kidized Roof ater-Stained cal Soil Sur	Jpper 12 posits erns in W 2 or more t Channel Leaves vey Data est	/etlands e require ls in Upp	ed):
POROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available  Pld Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil:  Marks: Salt crust present, but is thin. The site is any	oroximate	/etland l	Hydrolog imary Ind Si W Di Se Di Condary X W Lo FA	y Indicators dicators: undated aturated in I dater Marks rift Lines ediment Dep rainage Patt Indicators ( kidized Root ater-Stained cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Ind	Jpper 12 posits erns in W 2 or more t Channel Leaves vey Data est in Rema	etlands require ls in Upp arks)	ed): per 12 Inche
POROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available  Id Observations: Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)	oroximate	/etland l	Hydrolog imary Ind Si W Di Se Di Condary X W Lo FA	y Indicators dicators: undated aturated in I dater Marks rift Lines ediment Dep rainage Patt Indicators ( kidized Root ater-Stained cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Indicators ( cal Soil Sur Ind	Jpper 12 posits erns in W 2 or more t Channel Leaves vey Data est in Rema	etlands require ls in Upp arks)	ed): per 12 Inche

SOILS								
Map Unit	Name	Gg-Geer silt loa	Drainage Class:	Moderately well drained				
(Series a	nd Phase):		Field Observations					
Taxonom	ny (Subgrou	p): Typic torriorthe	Confirm Mapped Ty	Confirm Mapped Type? Yes X No				
Profile D	Description							
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
0-4	Α	10YR 5/4			SILTY CLAY LOAM			
4-11	В	10YR 4/3	7.5YR 3/4	COMMON, FAINT to DISTINCT	SILTY CLAY			
Hydric S	Hi Si Ad	ors: istosol istic Epipedon ulfidic Odor quic Moisture Regime educing Conditions leyed or Low-Chroma		Concretions High Organic Content in s Organic Streaking in Sand Listed on Local Hydric So Listed on National Hydric Other (Explain in Remarks	ils List Soils List			
Remarks Higher el not meet	evation that	n surrounding area. D soil parameter.	ue to lack of hydrolog	gic indicators and hydric soil	field indicators this site does			
WETLA	ND DETE	RMINATION	A					
	tic Vegetation		No	303				
Wetland F	Hydrology Preils Ils Present?		X No	Sampling Point Within a Wetlan	d? Yes X No			
Remark	s:							
			-		Approved by HQUSACE 2/9/			

Project/Site: Yucca Mountain Rail Corridor EIS S	outhern	v	Date:	06/24/2006
Portion of Caliente Segment	Cathern	,	Julio.	00/24/2006
Applicant/Owner: Bechtel-SAIC			County:	T: 1
Investigator: PBS&J (RRM & DB)			1	Lincoln
1 Down (Ritty & DB)			State:	Nevada
Do Normal Circumstances exist on the site:	X Yes	No	Commun	ity ID:
Is the site significantly disturbed (Atypical Situation)?	No	Transect	•	
Is the area a potential Problem Area?:	No	Plot ID:		
(If needed, explain on reverse.)	Yes X	NO	PIOUID:	<u>CCE-19</u>
VEGETATION				
Dominant Plant Species Stratum Indicator	Domir	nant Pl	ant Species	Stratum Indicator
1 Juneus balticus H FACW	9		<del></del>	- Indicator
2 Puccinellia lemmonii H FAC	10			
3 Distichlis spicata H FAC+	-   11			
4	12			
5	-   13			
6	14			
7	15			
8	16			
	-			
Percent of Dominant Species that are OBL, FACW, or FA	C (excluding FA	C-).	3/3 = 100	0%
Remarks:				
HYDROLOGY				
Recorded Data (Describe in Remarks):	Motor of the			
Stream, Lake, or Tide Gauge	Wetland Hyd			:
<del></del>	Prima		licators:	
Aerial Photographs Other		_	undated	· ·
X No Recorded Data Available	_ <u>X</u>	_ Sa	iturated in l	Jpper 12 Inches
		_	ater Marks	
Field Observations:			ift Lines	
. 10.0 Obolivations,		_	diment Dep	oosits
Depth of Surface Water: (in.)	S0005	Dra	ainage Patt	erns in Wetlands
(111.)		loary	indicators (	2 or more required):
Depth to Free Water in Pit: (in.)	<u>X</u>	_ Ox	idized Root	Channels in Upper 12 Inches
(11.)			ter-Stained	1
Depth to Saturated Soil: (in.)		_ Loc	cal Soil Sur	vey Data
(III.)		_	C-Neutral T	
	<del></del>	_ Oth	ier (Explain	in Remarks)
Remarks:				
A thick salt crust, depressional topography, and livestock prisoning season	ugging all indica	te that	the site ha	is soil saturation earlier in the
rewing season.				

SOILS			<del></del>					<del></del>	
Map Uni	Name	Gg-Geer silt loa	m-strongly sa	line	Drainage Class: Moderately well drained				
(Series a	nd Phase):				Field Observations				
•	ny (Subgrou	p): Typic torriorthe	nts		Confirm Mapped Ty	/pe?	Yes	_X_	_ No
Duelle F	) vintion								
Depth	Description:	Matrix Color	Mottle Cold	ırs	Mottle	Texture	, Concre	etions,	
inches	Horizon	(Munsell Moist)	(Munsell M		Abundance/Contrast	Structur	e, etc.		
0-2.5	Α	10YR 5/4				;	SILTY C	LAY	
2.5-6	В	10YR 4/2	5YR	3/4	ABUNDANT, DISTINCT	,	SILTY C	LAY	
6-10	С	10YR 4/3					SILTY C	LAY	
			,						
				<del></del>					
Hydric S	oil Indicato	ors:							
• .	Hi	stosol			Concretions High Organic Content in s	curface Lav	or in Sa	ndy S	oils
		stic Epipedon Ilfidic Odor			Organic Streaking in San		61 111 00	illuy O	0113
	— Ac	uic Moisture Regime			isted on Local Hydric So				أنم
		educing Conditions eyed or Low-Chroma	Colors		isted on National Hydric Other (Explain in Remark				ł
Remarks						•		<del></del>	
nemarks	•								
						***************************************			
		RMINATION		<del> </del>			<u></u>	<u> , </u>	
Hydrophy	tic Vegetation Iydrology Pre	Present? $X$ Yes sent? $X$ Yes						•	
	ils Present?	sent? $X Yes$		Is this Sampling Point Within a Wetland? X Yes No					
Remark	s:								

Approved by HQUSACE 2/92

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EIS Souther	n		Date:	06/	20/2006	and the second of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
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	X Ye Ye Ye   Ye   Ye	Yes   X   Yes   X	X   Yes	County: State:    X	County: Line State: Nev  Nev  Non)? X Yes No Community ID: Transect ID: Plot ID:    Dominant Plant Species	County: Lincoln State: Nevada    State: Nevada   Nevada

Map Un	it Name	Pg- Pahranag	at silty clay loam		
(Series and Phase): Taxonomy (Subgroup):				Field Observat	(1)
		p): Fluvaquentic	Endoaqualls	Confirm Mappe	ed Type? Yes X N
	Description			B.A. Att -	Tautura Consustions
Depth inches	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Mo	1	Texture, Concretions, structure, etc.
3	A	10YR 4/2			SILTY CLAY
11	В	10YR 4/3			SILTY CLAY
					•
-lydric :	Soil Indicate	ors:			
-lydric	Hi Si X Ac Ro	ors: istosol istic Epipedon ulfidic Odor quic Moisture Regim educing Conditions leyed or Low-Chrom		Concretions High Organic Conter Organic Streaking in Listed on Local Hydr Listed on National H	ydric Soils List
Remark	Hi Si X Ad Ri Gi	istosol istic Epipedon ulfidic Odor quic Moisture Regim educing Conditions leyed or Low-Chrom		High Organic Conter Organic Streaking in Listed on Local Hydr Listed on National H	Sandy Soils ic Soils List ydric Soils List
Remark	Hi Si X Ad Ro G	istosol istic Epipedon ulfidic Odor quic Moisture Regim educing Conditions leyed or Low-Chrom		High Organic Conter Organic Streaking in Listed on Local Hydr Listed on National H	Sandy Soils ic Soils List ydric Soils List
Remark	Hi Si X Ad Ri Gi	istosol istic Epipedon ulfidic Odor quic Moisture Regim educing Conditions leyed or Low-Chrom		High Organic Conter Organic Streaking in Listed on Local Hydr Listed on National H	Sandy Soils ic Soils List ydric Soils List
Remark Aquic m	Hi Hi Hi Si X Ac Ri Gi S:	istosol istic Epipedon ulfidic Odor quic Moisture Regim educing Conditions leyed or Low-Chrom assumed.		High Organic Conter Organic Streaking in Listed on Local Hydr Listed on National H	Sandy Soils ic Soils List ydric Soils List
Remark Aquic m	Hi Hi Hi Si X Ac Ri Gi S:	istosol istic Epipedon ulfidic Odor quic Moisture Regim educing Conditions leyed or Low-Chrom e assumed.		High Organic Conter Organic Streaking in Listed on Local Hydr Listed on National H	Sandy Soils ic Soils List ydric Soils List
Remark Aquic mo WETLA Hydrophy Wetland	Hi Hi Si X Ac Re Gi S: oisture regime	istosol istic Epipedon ulfidic Odor quic Moisture Regimeducing Conditions leyed or Low-Chrome assumed.  RMINATION  Present? X Y esent? X Y	es No es No	High Organic Conter Organic Streaking in Listed on Local Hydr Listed on National H	Sandy Soils ic Soils List ydric Soils List marks)

amount of time (e.g., a month) each year, which would be long enough for hydrophytic vegetation to establish and to meet the

hydrology requirements, but may not be long enough for redox features to develop.

Approved by HQUSACE 2/92



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Project/Site: Yucca Mountain Rail Corridor EIS Sout	hern Date: 06/20/2006
Portion of Caliente Segment	
Applicant/Owner: Bechtel-SAIC	County: Lincoln
Investigator: PBS&J (RRM & DB)	State: Nevada
Do Normal Circumstances exist on the site:	Yes No Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes X No Transect ID:
Is the area a potential Problem Area?:	Yes X No Plot ID: CCW-2
(If needed, explain on reverse.)	<u> </u>
VEGETATION	
Dominant Plant Species Stratum Indicator	Dominant Plant Species Stratum Indicator
Pascopyron (Agropyron) smithii H FACU	9
2 Carex praegracilis H FACW 3 Juneus balticus H FACW	10
3 Juncus balticus H FACW	11
5	12
6	14
7	15
8	16
Persont of Deminent Cresies that are ORL 54 CM.	
Percent of Dominant Species that are OBL, FACW, or FAC (6)	excluding FAC-). $2/3 = 67\%$
Remarks:	
Scattered rabbitbrush and greasewood also occur in the vicin	ity, but are not dominant.
IIVBBOLOOV	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon
HYDROLOGY	
	Wetland Hydrology Indicators:
Stream, Lake, or Tide Gauge Aerial Photographs	Primary Indicators:
Other	Inundated Saturated in Upper 12 Inches
X No Recorded Data Available	Water Marks
	Drift Lines
Field Observations:	Sediment Deposits
Don'th of Confess Water	Drainage Patterns in Wetlands
Depth of Surface Water: (in.)	Secondary Indicators (2 or more required):
Depth to Free Water in Pit: (in.)	Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves
(III.)	Local Soil Survey Data
Depth to Saturated Soil: (in.)	X FAC-Neutral Test
	Other (Explain in Remarks)
Remarks: This area occurs on a shelf approximately 12 inches	
water ponding.	s rights that OCVV-1. Site topography is not conductive to

SOILS	,				
	nit Name	Ų J	silty clay loam, drained		Poor to somewhat poor
B .	and Phase):			Field Observations	
Taxono	my (Subgrou	up): Fluvaquentic En	ndoaqualls	Confirm Mapped Typ	rpe? Yes _X No
Profile	Description				
Depth	Description.		Mottle Colors	Mottle	Texture, Concretions,
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.
2	A	10YR 4/3			SILTY CLAY
11	В	10YR 5/3			SILTY CLAY
	-			-	
Hydric	Soil Indicate		C	Concretions	
		listosol listic Epipedon			urface Layer in Sandy Soils
		Sulfidic Odor		Organic Streaking in Sand	
		quic Moisture Regime	Li	isted on Local Hydric Soil	ils List
	R	Reducing Conditions	Li	isted on National Hydric S	Soils List
	G	aleyed or Low-Chroma (	Colors O	Other (Explain in Remarks	s) {
Remark					
	ence of hydric	soils.			
	•				
<u> </u>					
WETLA	AND DETE	RMINATION			
Hydrophy	ytic Vegetation	n Present? X Yes	No		
Wetland	Hydrology Pre	esent? Yes	X No		
Hydric So	oils Present?	Yes	X No Is this Samp	pling Point Within a Wetland	d? Yes X No
Remark					
					pproximately 6 feet away in the
bottom o	f the swale. F	For this reason the site is t	inlikely to have wetland by	ydrology and there are no inc	dications of hydric soils.

#### **DATA FORM** ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

	200 · · · · · · · · · · · · · · · · · ·							
	Project/Site: Yucca Mountain Rail Corridor EIS S	Souther	n		Date:	06/	20/2006	
ĺ	Portion of Caliente Segment	ooutiioi	••		Julio.	00/2	20/2006	
1	Applicant/Owner: Bechtel-SAIC				County:	Line	roln	
	Investigator: PBS&J (RRM & DB)			_	State:	Nev		
<b> </b> -	·					1101	aua	
	Do Normal Circumstances exist on the site:		es 🖳	No	Communi	-		
	s the site significantly disturbed (Atypical Situation)?	Ye		X No	Transect	D:		
	s the area a potential Problem Area?:	Ye	es _}	√ No	Plot ID:		CCW-3	
<u> </u>	(If needed, explain on reverse.)							
	/EGETATION							
	Dominant Plant Species Stratum Indicator		Do	minant P	lant Species		Stratum	Indicator
1	Distichlis spicata H FAC+	g	, —		<del></del>			
2	Sarcobatus vermiculatus H FACU	_   10	o —		<del></del>			
3		_   1	1					<del> </del>
4		1:	2					
5		_   10	3					
6		_   14	ļ					
		15	5 <u> </u>				· · · · · · · · · · · · · · · · · · ·	
8		_   16	·					
R	ercent of Dominant Species that are OBL, FACW, or FA	AC (excl	uding	FAC-).	$\frac{1}{2} = 50\%$			
	emarks:						<del></del>	
<u> </u>								
<u>H</u>	YDROLOGY							
	Recorded Data (Describe in Remarks):	We	land F	lydrolog	y Indicators			
	Stream, Lake, or Tide Gauge				dicators:			
	Aerial Photographs	İ		-	undated			
	Other			S	aturated in t	Jpper	12 Inches	
	X No Recorded Data Available				ater Marks			
Fie	eld Observations:				rift Lines			
1 1 10	ed Observations.		-	Se	ediment Dep	osits		
	Depth of Surface Water: (in.)		Se	Ondary	ainage Patt Indicators (	erns ir	) Wetlands	1
	Boparor durace water.	İ	00					ea): per 12 Inches
	Depth of Surface Water: (in.)	ł			11012CU   1001	Ullall	neis in opi	oer 12 inches 1
	Depth to Free Water in Pit: (in.)		-	w	ater-Stained	Leave	95	12 11101100
	Depth to Free Water in Pit: (in.)		-	w	ater-Stained	Leave	es	
	Don'th to Fire M. I. Div		- -	W Lo	ater-Stained cal Soil Sur AC-Neutral T	Leave	es	
	Depth to Free Water in Pit: (in.)		- - -	W Lo FA	ater-Stained cal Soil Sur AC-Neutral T	Leave vey Da est	es ata	
Rei	Depth to Free Water in Pit: (in.)  Depth to Saturated Soil: (in.)  marks: Past soil saturation is evident (some mud crack)	s), howe	ver m	W Lo 	ater-Stained cal Soil Sur AC-Neutral T her (Explain	Leave vey Da est in Re	es ata marks)	,
Rei	Depth to Free Water in Pit: (in.)	s), howe	ver m	W Lo 	ater-Stained cal Soil Sur AC-Neutral T her (Explain	Leave vey Da est in Re	es ata marks)	,
Rei	Depth to Free Water in Pit: (in.)  Depth to Saturated Soil: (in.)  marks: Past soil saturation is evident (some mud crack)	s), howe	ver m	W Lo 	ater-Stained cal Soil Sur AC-Neutral T her (Explain	Leave vey Da est in Re	es ata marks)	,

		_	silty clay loam, drained	Drainage Class:	Poor to somewhat poor
	ric Soil Indicators: Histosol Histic Eg Sulfidic Maquic M Reducin Gleyed of the stand Hydrology Present? In Soils Present?			Field Observations	O V Tr No
Taxono	my (Subgrou	p): Fluvaquentic E	ndoaqualls	Confirm Mapped Typ	pe? Yes X No
Profile	Description	•			
Depth	Decomption	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.
	Α	10YR 5/3			SILTY CLAY
11					
				<u>L</u>	
Hydric (			_	Concretions	
					urface Layer in Sandy Soils
		ulfidic Odor		Organic Streaking in Sand	
		quic Moisture Regime		isted on Local Hydric Soil	
		educing Conditions		isted on National Hydric S	
	rofile Description epth ches Horizon  11 A  ydric Soil Indicate Hi Si A G emarks: No field in	leyed or Low-Chroma	Colors C	Other (Explain in Remarks	
Remarks	s: No field in	ndicators of hydric soil	s observed.		
		,			
L				· · · · · · · · · · · · · · · · · · ·	
WETLA	ND DETEI	RMINATION			
			x No		
		Yes		pling Point Within a Wetland	d? Yes X No
Remark	(S:				
			•		
<u> </u>			<del></del>		Approved by HQUSACE 2/91

Project/Site: Yucca Mountain Rail Corridor FIS So	Date: 06/20/2006	
	Date: 06/20/2006	
	Country	
PBS&J (RRM & DB)	State: Nevada	
Do Normal Circumstances exist on the site:	Y Yes No Community ID:	
1		
Portion of Caliente Segment   Applicant/Owner: Bechtel-SAIC   Investigator: PBS&J (RRM & DB)   State: Nevada   Nevada   State: Nevada   Nevada   State: Nevada   Nevada   State: Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Nevada   Neva		
	$\underline{\hspace{0.5cm}}$ Yes $\underline{\hspace{0.5cm}}$ No Plot ID: $\underline{\hspace{0.5cm}}$ CCW-4	
(ii hooded, explain on reverse.)		-
VEGETATION		
	Dominant Blank C	
		r
2 Thew		
1 TAC+		
- Hordean Judatum H FAC	11	
	12	
5	13	
6	14	
7	15	
8	16	
Percent of Deminent Species that are ODL FACUL		
	(excluding FAC-). 4/4=100%	
Remarks:		
HYDROLOGY		
	Wotland Hudada and Latin	
·		
		Į
	· · · · · · · · · · · · · · · · · · ·	
Field Observations:	·	
rield Observations.	X Sediment Deposits	ĺ
Depth of Surface Water: (in )	Drainage Patterns in Wetlands	
(III.)		j
Depth to Free Water in Pit: /in \	Oxidized Root Channels in Upper 12 Inc	hes
Applicant/Owner: Bechtel-SAIC   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada   State: Nevada		
Depth to Saturated Soil:		
(III.)		ļ
Portion of Caliente Segment Applicant/Owner: Bechtel-SAIC nvestigator: PBS&I (RRM & DB)  Do Normal Circumstances exist on the site: X Yes No steep the site significantly disturbed (Atypical Situation)? Yes X No steep the site significantly disturbed (Atypical Situation)? Yes X No ranea a potential Problem Area?: Yes X No Plot ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID: Transect ID		
Remarks: Depressional topography, livestock pugging.	<u> </u>	
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		ļ
		Ĩ

201F2											
	Pg- Pahranagat silty clay loam, drained ries and Phase):  onomy (Subgroup):  Fluvaquentic Endoaqualls  Fluvaquentic Endoaqualls  Fluvaquentic Endoaqualls  Fluvaquentic Endoaqualls  Matrix Color (Munsell Moist) (Munsell Moist)  A 7.5YR 4/1  Fric Soil Indicators:  Histosol (Conditions)  Sulfidic Odor (Org  Aquic Moisture Regime)  Reducing Conditions  X Gleyed or Low-Chroma Colors  Matrix Color (Munsell Moist)  A 7.5YR 4/1  Fric Soil Indicators:  Condition (Org  Aquic Moisture Regime)  Reducing Conditions  X Gleyed or Low-Chroma Colors  Matrix Colors  Mottle Colors  A 7.5YR 4/1  Fric Soil Indicators:  Condition (Org  Aquic Moisture Regime)  Reducing Conditions  A Gleyed or Low-Chroma Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Other Colors  Othe			_		Poor to s	omewha	t poor			
11 '			aquentic En	doaqualls				pe?	Yes -	<u>X</u>	No
	Pg- Pahranagat silty clay loam, drained ries and Phase): conomy (Subgroup): Fluvaquentic Endoaqualls  file Description: cht Matrix Color (Munsell Moist)  A 7.5YR 4/1   Price Soil Indicators:  Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regime Reducing Conditions X Gleyed or Low-Chroma Colors  TLAND DETERMINATION  Prophytic Vegetation Present? X Yes No and Hydrology Present? X Yes No ric Soils Present? X Yes No Is this Sam							1			
Depth inches	Horizon			1 '			/Contrast			tions,	
10	Α	7.5Y	'R 4/1					<del> </del>	SILTY C	LAY	
								<u> </u>			
						· · · · · · · · · · · · · · · · · · ·					
	Hi Si Ai Ri X G	istosol istic Epiped ulfidic Odor quic Moistur educing Cor	re Regime nditions	Colors	H 	igh Organic ( rganic Streak sted on Loca sted on Natio	king in Sand Il Hydric Soi onal Hydric S	ly Soils ls List Soils List	er in Sai	ndy So	ils
	(Series and Phase): Field Observations Taxonomy (Subgroup): Fluvaquentic Endoaqualls  Confirm Mapped Type? Yes X No  Profile Description: Depth Horizon (Munsell Moist) (Munsell Moist)  A 7.5YR 4/1  Hydric Soil Indicators: Histosol Histo Epipedon Sulfidic Odor Aquic Moisture Regime Reducing Conditions  A 4 Gleyed or Low-Chroma Colors  Remarks:  WETLAND DETERMINATION Hydrology Present? X Yes No  Mottle Colors (Munsell Moist)  Mottle Colors (Munsell Moist)  Mottle Colors (Munsell Moist)  Mottle Colors (Munsell Moist)  Mottle Colors (Munsell Moist)  Mottle Colors (Munsell Moist)  Texture, Concretions, Structure, etc.  Texture, Concretions, Structure, etc.  Toxture, Concretions, Structure, etc.  Texture, Concretions, Structure, etc.  Toxture, Concretions, Structure, etc.  Toxture, Concretions, Structure, etc.  Toxture, Concretions, Structure, etc.  Toxture, Concretions, Structure, etc.  SILTY CLAY  High Organic Content in surface Layer in Sandy Soils Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils List Listed on Local Hydric Soils Listed on Local Hydric Soils Listed on Local Hydric Soils Listed on Local Hydric Soils Listed on Local Hy										
Wetland	Hydrology Pre		X Yes	No	Is this Sam	oling Point Wit	hin a Wetland	d? <u>X</u>	_ Yes .	<del></del>	No
Remark	is:										

Pr				uthern			Date:	06/20/2006	<del>and a second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se</del>
ĺ	Portion of Ca	liente Segme	nt						
							County:	Lincoln	
Inv	restigator: PBS&J (RRM	1 & DB)					State:	Nevada	
<u> </u>	Mormal Circumstances ovic	at on the cita							
				<del>-</del>			ı	•	
	Portion of Caliente Segment  Dilicant/Owner: Bechtel-SAIC  Statigator: PBS&J (RRM & DB)  Normal Circumstances exist on the site: X Yes No Community ID:  te site significantly disturbed (Atypical Situation)? X Yes No Transect ID:  te area a potential Problem Area?: Yes X No Plot ID: CCW-5  If needed, explain on reverse.)  SETATION  Dominant Plant Species Stratum Indicator  Carex praegracitis H FAC*  Hordoun jubatum H FAC*  Distichlis spicata H FAC*  Junuce batticus H FAC*  Junuce batticus H FAC*  Sarcobatus vermiculatus Shruba & FACU  Sarcobatus vermiculatus Shruba & FACU  Sarcobatus vermiculatus Shruba & FACU  Sarcobatus vermiculatus Pattistine emergent.  ROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs  Wetland Hydrology Indicators:  Primary Indicators:  Primary Indicators:  Primary Indicators:  Primary Indicators:  Primary Indicators:  Primary Indicators:  Primary Indicators:  Difft Lines  Sactiment Deposits  Difft Lines  Secondary Indicators (2 or more required):  Observations:  Depth of Surface Water: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)  Depth to Saturated Soil: (in.)								
2				Yes	<u>X</u>	No	Plot ID:	_CCW-	5
	ii needed, explain on revers	se.)					,		
VE	GETATION								
		Stratum	Indicator		Domir	ant Pi	ant Species	Ctratum	f = df = + + -
1			<del></del>	-		-	ant opecies	Stratum	Indicator
2				.					
3		<del></del>		.   _		_	<del></del>		
4				.   _					
5									
	Sarcodatus verificulatus	seedlings	FACU			·			
6 -									
7 8 -				_					
L° -				16 _					
	DROLOGY	oughout. Talus	anne emerger		· ···	<del> </del>			
		cribe in Remai	ks):	Wetlan	d Hyd	Irology	v Indicators	···	
-			,	Wouldn				<b>).</b>	
			3			•			
	Other							Upper 12 Inches	
_	X No Recorded Data A	vailable		1		_ w	ater Marks		
<u></u>						Dr	ift Lines		
Field	Observations:					Se	diment De	posits	
	Denth of Surface Water:		(in )			Dr	ainage Pat	terns in Wetlands	5
	Depth of Ourface Water.	<del></del>	- ^(III.)		Secor				
	Depth to Free Water in Pit:		(in )			– Ox	dized Roo	t Channels in Up	per 12 Inches
	,	<del></del>	- ()						
	Depth to Saturated Soil:		(in.)	İ					
			- ` ´	l.					
Rema	arks:	<del></del>		<u> </u>			,=pian		
The I	hydrology of this site is some	what guestion	able, howev	er the sit	e doe	s haw	denressia	anal tonogrambic	manual awa = tr =
îd a	thin salt crust in areas. Fo	r these reason	s it was assu	imed to b	e inun	dated	/saturated	mai lupugrapny, i earlier in the arc	muu cracks, wing seeson
								wie grot	g scason.

SOILS								<del> </del>		
Map Un	it Name	Pg-Pal	hranagat si	ilty clay loar	n, drained	Drainage Class:		o somewh	at poor	
(Series	and Phase):				Field Observations					
Taxono	my (Subgrou	p): Fluvac	quentic En	doaqualls		Confirm Mapped T	ype?	Yes	<u>X</u>	Ne
Drafile	Description									
Depth	<u>Description</u>	Matrix Colo	r	Mottle Col	ors	Mottle	Textu	re, Concr	etions.	
inches	Horizon	(Munsell Mo		(Munsell M		Abundance/Contrast		ture, etc.		
11101100					···			SILTY	TAY	
2	Α ,	10YR	4/3							
	В	10YR	4/2					SILTY (	CLAY	
11										
				<u> </u>						
								<u>,                                      </u>		
	<u>                                     </u>						<u> </u>			
Hydric	Soil Indicate				(	Concretions				
		stosol stic Epipedor	n			ligh Organic Content in	surface I	aver in Sa	andv So	oils
	'''	ulfidic Odor				Organic Streaking in San		, c		
		quic Moisture	Regime			isted on Local Hydric So				
,	Re	educing Cond	ditions			isted on National Hydric		st .		
	GI	leyed or Low	-Chroma C	Colors		Other (Explain in Remark	(s)			
Remark				<del></del>						
Aquic m	.s. oisture regime	assumed due	to evidence	of hydrology	y and the der	pressional topography.				(;
				, 0.	, <u>-</u>					•
		· <del></del>			·					
14/274	AND DETEC	DAILA TION								
	AND DETER				T					
	ytic Vegetation		X Yes	No						
	Hydrology Pre	esent?	X Yes	No	la Abia Cam	nalina Daint Within a Matla	nd2 3	v Voc		No
Hydric S	oils Present?	-	X Yes	No	is this San	pling Point Within a Wetla		Yes		. 140
Remar	ks.									
Atypical	situation whe	re vegetation a	and hydrolo	gy parameter	s are found t	o be met, but field indicate	rs of hydi	ric soils are	lacking	•
This area	a is irrigated fr	om the surface	e, which ma	ay limit the fo	rmation of r	edoximorphic features in t	nis heavy	soil type.	For exar	nple
the claye	y soil may sea	ıl shut and inh	ibit the dow	vnward move	ment of wate	r. In addition, the irrigation	n is likely	turned on	for a lir	nited
amount o	of time (e.g., a	month) each	year, which	would be lon	ig enough fo	r hydrophytic vegetation to	establish	and to me	et the	
hydrolog	gy requirement	is, but may not	t be long en	ough for redo	ox teatures to	develop. In addition, the	pri oi ille	Soil illay o	emgn	
enough t	o inhibit the fo	ormation of re	uox teature:	<b>S.</b>						
										. 1
										(
										/

<u>, -                                    </u>			·		
Project/Site: Yucca Mountain Rail Corridor EIS So	outhern		Date:	06/21/2006	
Portion of Caliente Segment				00/21/2000	
Applicant/Owner: Bechtel-SAIC		-	County:	Lincoln	<del></del>
Investigator: PBS&J (RRM & SPG)		-	State:	Nevada	
				Tievada	
	X Yes	No	Communi	ty ID:	
Is the site significantly disturbed (Atypical Situation)?	Yes X	No	Transect	ID:	
Is the area a potential Problem Area?:	Yes X	No	Plot ID:	CCW-6	
(If needed, explain on reverse.)					
VEGETATION					
Dominant Plant Species Stratum Indicator	Dom	inant P	lant Species	Stratum In	dicator
1 Juncus balticus H FACW	9				
2 Carex praegracilis H FACW	10	<u> </u>			
3	11	······································			
4	12				
5	13				
6	14				
7	15				
8	16				***
Percent of Dominant Species that are OBL, FACW, or FAC	I C (excludina F	AC-)	2/2 = 100	n%	
Remarks:					
anemarks.					
HYDROLOGY					
Recorded Data (Describe in Remarks):	Wetland Hy	/drolog	y Indicators	•	
Stream, Lake, or Tide Gauge	T .		dicators:	•	
Aerial Photographs		•	undated		
Other Other				Jpper 12 Inches	
X No Recorded Data Available		W	/ater Marks	••	
		D	rift Lines		
Field Observations:		s	ediment Dep	oosits	
Depth of Surface Water: (in.)		D	rainage Pati	terns in Wetlands	
Depth of Surface Water: (in.)	Sec			2 or more required):	
Depth to Free Water in Pit: (in.)	_	— W	xidized Hoo ater-Stained	t Channels in Upper	12 Inches
	_		cal Soil Sur		
Depth to Saturated Soil: (in.)	_	LC	AC-Neutral 1	rest	
	_			n in Remarks)	
Remarks: Depressional topography with algal mats provide	s avidance of			•	
swale earlier in the growing season.	a evidence of	son sai	iuration, and	i iriundation in deepe	r part of
<b>.</b>					

•	nit Name	_	nranagat s	silty clay loar	m, drained	Drainage Cla Field Observ	_	Poor to so	mewha	t poor	
•	and Phase): my (Subgrou		uentic Er	ndoaqualls		Confirm Map		∍?	Yes	X	N.
Profile	Description:										
Depth inches	Horizon	Matrix Color (Munsell Mo		Mottle Col (Munsell M		Mottle Abundance/Con	ıtrast	Texture, Structure		tions,	
6	Α	10YR	4/2					S	ILTY C	LAY	
10.5	В	10YR	4/3					S	ILTY C	LAY	
;											
	Gles:		-Chroma (	Colors		isted on National I		pils List			
Hydrophy Wetland I	AND DETER ytic Vegetation Hydrology Presoils Present?	Present?	X         Yes           X         Yes           X         Yes	No	Is this Sar	npling Point Within a	Wetland?	X	Yes		No
This area the clayer amount o	situation when a is irrigated from y soil may seal of time (e.g., a	om the surface I shut and inhil	e, which ma bit the dow ear, which	ay limit the fow nward mover nwould be lon	ormation of r ment of wate ng enough fo	o be met, but field in edoximorphic featurer. In addition, the in r hydrophytic vegeta develop.	es in this l rrigation is	heavy soil s likely turi	type. Fo	or exam or a lim	nple

$H^{*}$			•	
Project/Site: Yucca Mountain Rail Corridor EIS S	outhern		Date:	06/21/2006
Portion of Caliente Segment				33/21/2000
Applicant/Owner: Bechtel-SAIC		-	County:	Lincoln
Investigator: PBS&J (RRM & SPG)		•	State:	Nevada
Do Normal Circumstances exist on the site:		<u> </u>		
	X Yes	_ No	Commun	
Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area?:	Yes <u>X</u>	No	Transect	
(If needed, explain on reverse.)	Yes <u>X</u>	_ No	Plot ID:	CCW-7
(in needed, explain on reverse.)				
VEGETATION				
Dominant Plant Species Stratum Indicator	Dom	inant P	lant Species	Stratum Indicator
1 Juncus balticus H FACW	-   9			Ciraton Indicator
2 Carex praegracilis H FACW	-   ₁₀	<del></del>		
3 Distichlis spicata H FAC+	_   11			
4 Iva axillaris H FACW	12	· · · · · · · · · · · · · · · · · · ·	<del></del>	
5	13			
6	14			
7	15			
8	16			
Percent of Dominant Species that are OBL, FACW, or FA	C (excluding E	ΔC-)	100%	
HYDROLOGY				
Recorded Data (Describe in Remarks):	Wotland Liv	drolog		
Stream, Lake, or Tide Gauge	Wetland Hy	_	y moicators dicators:	:
Aerial Photographs		•	undated	
Other	_			Jpper 12 Inches
X No Recorded Data Available		w	ater Marks	oppor 12 mones
	_	Dı	ift Lines	
Field Observations:			ediment Dep	
Depth of Surface Water: (in.)	0-	Dr	ainage Pati	terns in Wetlands
Depth of Surface Water: (in.)	Seco			2 or more required):
Depth to Free Water in Pit: (in.)		w	ater-Stained	
Depth to Saturated Soil: (in.)	_		cal Soil Sur ،C-Neutral 1	
(111.)				rest rin Remarks)
Pamarka: Sita is located annual in the internal				•
Remarks: Site is located approximately 12 inches higher the	nan CCW-6 and	does	not possess	topography conducive to
ponding water for long or very long periods of time. No stre	ong evidence o	i wetia	na nydrolog	ly here.
				į.

SOILS					/
	nit Name and Phase)		silty clay loam, drained	Drainage Class: Field Observations	Poor to somewhat poor
H '	my (Subgro		ndoaqualls	Confirm Mapped Ty	/pe? Yes _X_ No
Profile	Description	n: Matrix Color	Mottle Colors	Mottle	Toytura Congrations
Depth inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Texture, Concretions, Structure, etc.
3	A	10YR 4/2			SILTY CLAY
10	В	10YR 5/3			SILTY CLAY
	:				
	Soil Indicate				
Remarks No evide	R	quic Moisture Regime educing Conditions leyed or Low-Chroma ic soils.	L	isted on Local Hydric Soi isted on National Hydric Other (Explain in Remarks	Soils List
WETLA	ND DETE	RMINATION			
Wetland I	rtic Vegetation Hydrology Pre pils Present?		X No	pling Point Within a Wetland	d? Yes X No
Remark	(S:				
					•

<u></u> ; ⁵			,	
Project/Site: Yucca Mountain Rail Corridor EIS So	outhern		Date:	06/21/2006
Portion of Caliente Segment				
Applicant/Owner: Bechtel-SAIC		•	County:	Lincoln
Investigator: PBS&J (RRM & SPG)		•	State:	Nevada
Do Normal Circumstances exist on the site:		· 		
1	X Yes	No No	Communi	·
Is the site significantly disturbed (Atypical Situation)?	Yes <u>X</u>	No -	Transect	
Is the area a potential Problem Area?:  (If needed, explain on reverse.)	Yes <u>X</u>	No_	Plot ID:	CCW-8
(ii needed, explain on reverse.)				
VEGETATION				
Dominant Plant Species Stratum Indicator	Dom	inant D	lant Species	Charles La R
1 Scirpus acutus H OBL	- 9		ant Species	Stratum Indicator
2 Scirpus maritimus H OBL(NI)	-   10			
3	-   10		·—	
4	-   12			
5	-   13			
6	-   14		<del></del>	
7	15			
8	16			
Percent of Dominant Species that are OBL, FACW, or FAC	·		2/2 = 100	
HYDROLOGY				
Recorded Data (Describe in Remarks):	Wetland Hy	_	•	
Stream, Lake, or Tide Gauge	Prim		dicators:	
Aerial Photographs Other	_		undated	
X No Recorded Data Available	_	X Sa	aturated in t ater Marks	Jpper 12 Inches
			ift Lines	
Field Observations:	_		ediment Der	nosite
				erns in Wetlands
Depth of Surface Water: ~6 (in.)	Seco	ondary	Indicators (	2 or more required):
Depth to Free Water in Pit: (in.)	_	O	kidized Roos ater-Stained	t Channels in Upper 12 Inches
(11.)	_		ater-Stained cal Soil Sur	
Depth to Saturated Soil: (in.)			Car Soir Sur C-Neutral 1	
	_			in Remarks)
Remarks: Depressional tonography, algal mata process.				· · · · · · · · · · · · · · · · · · ·
Remarks: Depressional topography, algal mats present. Ap the other side of the highway.	phears to be st	ıo-ırrıg	ated by Mea	adow Valley Wash located on
-				· · · · · · · · · · · · · · · · · · ·

Map Uni	it Name and Phase):	Pg-Pahranaga	at silty clay loam, drained	Drainage Class: Field Observations	Poor to somewhat poor				
•	and Phase). ny (Subgroup	): Fluvaquentic	Endoaqualls		Confirm Mapped Type? Yes X No				
						<del></del>			
Depth inches		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture	e, Concre	tions,		
inches	HOJIZOH	(IVIUIISEII IVIOISI)	(wurisen worst)	Abditioance/Contrast	Structu	ire, etc.			
							<del></del>	<del></del>	
					ļ				
Remarks No soil pi distinct.		s inundated/saturated	l, aquic moisture regime is a	ssumed. Dominant vegetati	on obligate	, boundari	es are		
WETLA	ND DETERM	MINATION				33500		7.00	
Netland F	tic Vegetation F Hydrology Prese ils Present?		es No	mpling Point Within a Wetlan	d? <u>X</u>	Yes -		No	
Remark	s:		· · · · · · · · · · · · · · · · · · ·			· <del></del>			

### DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project/Site: Yucca Mountain Rail Corridor EIS So	outhern	Date: 06/21/2006
Portion of Caliente Segment		
Applicant/Owner: Bechtel-SAIC		County: Lincoln
Investigator: PBS&J (RRM & SPG)		State: Nevada
Do Normal Circumstances exist on the site:	X Yes No	Committee
		Community ID:
Is the area a potential Problem Area?:	<del>_</del>	Transect ID:
(If needed, explain on reverse.)	Yes X No	Plot ID: CCW-9
VEGETATION		
Dominant Plant Species Stratum Indicator	Dominant P	lant Species Stratum Indicator
1 Distichlis spicata H FAC+	9	
2	10	
3	11	
4	12	
5	13	
6	14	
7	15	
8	16	
Percent of Dominant Species that are OBL, FACW, or FAC	C (excluding FAC-)	1/1 = 100%
Remarks: Scattered greasewood also occurs, but is not d  HYDROLOGY		
Recorded Data (Describe in Remarks):	Wetland Hydrolog	y Indicators
Stream, Lake, or Tide Gauge	Primary In	•
Aerial Photographs	1	oucators. nundated
Other		aturated in Upper 12 Inches
X No Recorded Data Available		/ater Marks
	D	rift Lines
Field Observations:		ediment Deposits
Donth of Surface Mater	<u>X</u> D	rainage Patterns in Wetlands
Depth of Surface Water:6 (in.)		Indicators (2 or more required):
Depth to Free Water in Pit: (in.)	O	xidized Root Channels in Upper 12 Inches //ater-Stained Leaves
(III.)	<del></del>	ocal Soil Survey Data
Depth to Saturated Soil: (in.)		AC-Neutral Test
` ` ′	· —	ther (Explain in Remarks)
Remarks: Depressional topography. Site drains to the bull-		, , , , , , , , , , , , , , , , , , ,
Remarks: Depressional topography. Site drains to the bulr inundation, saturation. Salt crust is thick on soil surface.	usn marsn to the sou	in (sample point CCW-8). Evidence of
in a sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum of sum		İ
7		

SOILS								/	
•	it Name and Phase):	Pg-Pahranaga	t silty clay loam, drained	Drainage Class: Field Observations	Poor to somewhat poor				
	my (Subgrou	p): Fluvaquentic l	Endoaqualls	Confirm Mapped Ty	rpe?	Yes	<u>X</u>	No	
Depth	Description:	Matrix Color	Mottle Colors	Mottle Texture, Con					
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast		Structure, etc.			
12 A		7.5YR 4/4				SILTY C	LAY		
	 s:	eyed or Low-Chroma		Other (Explain in Remarks					
Hydrophy Wetland I	rtic Vegetation Hydrology Pres oils Present?	Present? X Ye	s No	pling Point Within a Wetland	d? X	Yes		No	
This area the clayed amount o hydrologo	situation where is irrigated fro y soil may seal f time (e.g., a r y requirements	om the surface, which is shut and inhibit the domonth) each year, which, but may not be long of	elogy parameters are found to may limit the formation of re- ownward movement of wate ch would be long enough for enough for redox features to the formation of redox feature	edoximorphic features in thing.  In addition, the irrigation of the hydrophytic vegetation to the develop. In addition, the p	s heavy soi i is likely tu establish an	type. For ned on f d to meet	or examor a lim the	iple nited	

Project/Site: Yucca Mountain Rail Corridor EIS So	uthern		Date:	06/21/2006
Portion of Caliente Segment	athern		3 4.0.	00/21/2000
Applicant/Owner: Bechtel-SAIC			County:	Lincoln
Investigator: PBS&J (RRM & SPG)			1 -	Nevada
;			_	110 vada
Do Normal Circumstances exist on the site:	Yes	No	Community	ID:
Is the site significantly disturbed (Atypical Situation)?	Yes X	No	Transect ID	:
Is the area a potential Problem Area?:	Yes X	No	Plot ID:	CCW-10
(If needed, explain on reverse.)	······································			
VEGETATION				
Dominant Plant Species Stratum Indicator	Domi	nant P	ant Species	Stratum Indicator
1 Juncus balticus H FACW	9			· · · · · · · · · · · · · · · · · · ·
2 Carex praegracilis H FACW	10			
3 Distichlis spicata H FAC+	11			
4	12			
5	13			
6	14			
7	15			
8	16			
Percent of Dominant Species that are OBL, FACW, or FAC	Ceveluding E4	(C-)	100%	
Scattered Nebraska sedge, redtop, and poverty sumpweed also or	ccur, but are not	domin	iant.	
HYDROLOGY				
Recorded Data (Describe in Remarks):	Wetland Hy	drolog	y Indicators:	
Stream, Lake, or Tide Gauge	Prim	ary In	dicators:	
Aerial Photographs		In	undated	
Other Other				oper 12 Inches
X No Recorded Data Available			ater Marks	
Field Observation	_		rift Lines	
Field Observations:	_		ediment Depo	
Depth of Surface Water: (in.)	Seco			rns in Wetlands or more required):
(11.)	1			Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)		w	ater-Stained	Leaves
Depth to Saturated Soil: (in.)			ocal Soil Surv AC-Neutral Te	
· ,			ther (Explain	
Remarks: Evidence of saturation and inundation in lower are	eas.			
<b>y</b> .				

SOILS						/	
	nit Name	Pg-Pahranag	at silty clay loam, drained	Drainage Class:	Poor to somewhat poor		
	and Phase):			Field Observations		•	
Taxono	my (Subgrou	o): Fluvaquentic	Endoaqualls	Confirm Mapped Typ	oe? Yes <u>X</u>	No	
Profile	Description:						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast			
7	A	10YR 4/3			SILTY CLAY		
12	В	10YR 4/2	5YR 4/6	Common, large, distinct	SILTY CLAY		
						-	
		· · · · · · · · · · · · · · · · · · ·			<u> </u>		
Remarks	His Sul Aqu	stosol stic Epipedon Ifidic Odor uic Moisture Regim ducing Conditions eyed or Low-Chrom	H — H — H — C — Li	oncretions igh Organic Content in su irganic Streaking in Sandy isted on Local Hydric Soil isted on National Hydric S ither (Explain in Remarks)	y Soils s List Soils List	ls	
WETLA	ND DETER	MINATION					
Wetland I	tic Vegetation Hydrology Pres ils Present?	ent? X Ye		oling Point Within a Wetland	? <u>X</u> Yes	No	
Remark	S:					ļ	

Desired Officer		
Project/Site: Yucca Mountain Rail Corridor EIS So Portion of Caliente Segment	outhern	Date: 06/21/2006
Applicant/Owner: Bechtel-SAIC		County: Lincoln
Investigator: PBS&J (RRM & SPG)	<del></del>	State: Nevada
		TVEVAUA
	X Yes No	Community ID:
	X Yes No	Transect ID:
Is the area a potential Problem Area?:	Yes X No	Plot ID: CCW-11
(If needed, explain on reverse.)		
VEGETATION		
Dominant Plant Species Stratum Indicator	Dominant Plar	nt Species Stratum Indicator
1 Eleocharis palustris H OBL	9	
2 Juncus balticus H FACW	10	
3 Distichlis spicata H FAC+	11	
4	12	
5	13	
6	14	
7	15	
8	16	
Percent of Dominant Species that are OBL, FACW, or FAC	C (excluding EAC-)	100%
Remarks:		100%
Patches of bulrush and cattail in lower elevations.		
HYDROLOGY		
Recorded Data (Describe in Remarks):	Wetland Hydrology	Indicators:
Stream, Lake, or Tide Gauge	Primary Indic	cators:
Aerial Photographs	_X Inur	ndated
Other	X Satu	urated in Upper 12 Inches
X No Recorded Data Available	·	er Marks
Field Observations:		Lines
rield Observations.		iment Deposits
Depth of Surface Water: (in.)	Secondary In	nage Patterns in Wetlands idicators (2 or more required):
		fized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)	Wate	er-Stained Leaves
	Loca	al Soil Survey Data
Depth to Saturated Soil: (in.)		-Neutral Test
	Othe	er (Explain in Remarks)
Remarks: Evidence that inundation (algal mats) and satural	tion occurred earlier in t	the growing season
, , , , , , , , , , , , , , , , , , , ,		3. 5 mily 0000011.

	nit Name		silty clay loam, draine		Poor to se	omewha	t poor	
	and Phase)		· · · · · · · · · · · · · · · · · · ·	Field Observations				_
Taxono	my (Subgro	up): Fluvaquentic E	ndoaqualls	Confirm Mapped Ty	pe?	Yes	<u>X</u>	No
Profile	Description							
Depth	Description	Matrix Color	Mottle Colors	Mottle	Texture,	Concre	tions.	
inches	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure			
12	А	SILTY CLAY						
				44444				
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		istic Epipedon ulfidic Odor		High Organic Content in so Organic Streaking in Sand	•	er in Jan	ay Suii	S
		quic Moisture Regime	<del></del>	Listed on Local Hydric Soi				
		educing Conditions		Listed on National Hydric S				1
1		cadoning Contantionio						
		leyed or Low-Chroma	Colors	Other (Explain in Remarks				
Remark	G		Colors					(
Remark Aquic m	G	leyed or Low-Chroma	Colors					
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WETLA Hydrophy Wetland Hydric So Remark Atypical This area the clayer amount of	S: oisture regime  AND DETEI  Vic Vegetation Hydrology Pre- oils Present?  (S: situation where is irrigated from y soil may see of time (e.g., a	RMINATION  Present?  X Yes  The vegetation and hydroloum the surface, which mal shut and inhibit the domonth) each year, which	No No No Is this Sa ogy parameters are found ay limit the formation of wnward movement of wa h would be long enough	ampling Point Within a Wetland to be met, but field indicators redoximorphic features in this ter. In addition, the irrigation or hydrophytic vegetation to e	s of hydric so heavy soil is likely tur	oils are la type. Fo ned on fo	acking. r examp or a limit	le

Date: 06/22/2006
County: Lincoln
State: Nevada
Community ID:
Community ID: Transect ID:
Plot ID: CCW-12
lant Species Stratum Indicator
3/3=100%
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ediment Deposits rainage Patterns in Wetlands Indicators (2 or more required): kidized Root Channels in Upper 12 Inches ater-Stained Leaves local Soil Survey Data AC-Neutral Test

Map Unit Name       Gg-Geer silt loam-strongly saline       Drainage Class:       Moderately well drains         (Series and Phase):       Field Observations         Taxonomy (Subgroup):       Typic torriorthents       Confirm Mapped Type?       Yes       X	ed.
Taxonomy (Subgroup): Typic torriorthents Confirm Mapped Type? Yes X	
	_ No
Profile Description:	
Depth   Matrix Color   Mottle Colors   Mottle   Texture, Concretions,	
inches Horizon (Munsell Moist) (Munsell Moist) Abundance/Contrast Structure, etc.	
10 A 10YR 4/2 5YR 5/4 Common, distinct SILTY CLAY	
Hydric Soil Indicators:	
Histosol Concretions	
Histic Epipedon High Organic Content in surface Layer in Sandy Se	oils
Sulfidic Odor Organic Streaking in Sandy Soils	
Aquic Moisture Regime X Listed on Local Hydric Soils List  Reducing Conditions Listed on National Hydric Soils List	Ĩ
X Gleyed or Low-Chroma Colors Other (Explain in Remarks)	
Remarks:	
WETLAND DETERMINATION	
Hydrophytic Vegetation Present? X Yes No	• ]
Wetland Hydrology Present? X Yes No	
Hydric Soils Present? X Yes No Is this Sampling Point Within a Wetland? X Yes	No
Remarks:	
	İ



### DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Applicant/Owner: <u>Bechtel-S</u> nvestigator: PBS&J (RRM						County: State:	Nev	coln ada	
o Normal Circumstances exis	t on the site:	•	X Yes		No	Commur			
s the site significantly disturbed			Yes		- No	Transect	-		
the area a potential Problem			Yes		No	Plot ID:	,	CCW-	13
(If needed, explain on reverse	e.)								
EGETATION									
Dominant Plant Species	Stratum	Indicator		Domi	nant P	lant Specie:	3	Stratum	Indicator
Carex praegracilis	Н	FACW	9						***
Juncus balticus	<u>H</u>	FACW	_   10						
Hordeum jubatum	Н	FAC	_   11						
			_   12						
			_   13						
			14			·			
			_   15						
emarks:	<del></del>		15 16 C (exclu	ding F	AC-).	3/3 = 10	00%		
emarks: tches of cattails and bulrush occu	<del></del>		16	ding F	AC-).	3/3 = 10	00%		
emarks: tches of cattails and bulrush occu	ır in nearby lo	ow areas.	16 AC (exclu			3/3 = 10			
emarks: tches of cattails and bulrush occu  YDROLOGY  Recorded Data (Desconded Data Stream	ur in nearby lo cribe in Rem , Lake, or Ti	ow areas. narks): de Gauge	16 AC (exclu	and Hy	drolog				
emarks: tches of cattails and bulrush occu  YDROLOGY  Recorded Data (Descorded Free Marks)  Stream Aerial F	ur in nearby lo	ow areas. narks): de Gauge	16 AC (exclu	and Hy Prim	drolog nary In X Ir	y Indicator dicators: nundated	rs:		
YDROLOGY  Recorded Data (Desconded Friedmann)  Stream Aerial F Other	or in nearby lo cribe in Rem , Lake, or Ti Photographs	ow areas. narks): de Gauge	16 AC (exclu	and Hy Prim	rdrolog nary In X Ir	y Indicator dicators: nundated aturated in	rs:	12 Inches	S
emarks:  Itches of cattails and bulrush occu  YDROLOGY  Recorded Data (Designal Stream Aerial F	or in nearby lo cribe in Rem , Lake, or Ti Photographs	ow areas. narks): de Gauge	16 AC (exclu	and Hy Prim	rdrolog nary In X Ir S	y Indicator dicators: nundated aturated in Vater Mark	rs:	· 12 Inches	S
Stream Aerial F Other	or in nearby lo cribe in Rem , Lake, or Ti Photographs	ow areas. narks): de Gauge	16 AC (exclu	and Hy Prim	rdrolog nary In X Ir S W	y Indicator dicators: nundated aturated in Vater Mark vrift Lines	rs: ı Upper s		S
YDROLOGY  Recorded Data (Desconded Frame Aerial Foundations)  X No Recorded Data Arelad Observations:	or in nearby lo cribe in Rem , Lake, or Ti Photographs	ow areas. narks): de Gauge	16 AC (exclu	and Hy Prim	rdrolog nary In X Ir S W D S X D	y Indicators: nundated invalued invalued invalued involved invalued involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involved involve	rs: Uppers	in Wetland	ds
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SOILS	,										
	nit Name	Gg-Geer silt loa	am-strongly	saline	Drainage Class:	Moderate	ly well o	draine	d.		
H .	and Phase):				Field Observations						
Taxono	my (Subgrou	up): Typic torriorthe	ents		Confirm Mapped Typ	ре? 	Yes -	X	Ne.		
	Description										
Depth		Matrix Color	Mottle Col		Mottle	Texture, Concretions,					
inches	Horizon	(Munsell Moist)	(Munsell N	vloist)	Abundance/Contrast	Structure	etc.		<del></del>		
10	A (	10YR 5/2	5/2 5YR 4/4 Few, distinct			/2 5YR 4/4		S	SILTY CI	LAY	
			10Y	R 5/1	Few, faint						
!											
							· · · · · · · · · · · · · · · · · · ·				
Remarks	Hi Su Ac Ac Gl	istosol istic Epipedon ulfidic Odor quic Moisture Regime educing Conditions leyed or Low-Chroma		H O Li O	oncretions igh Organic Content in su rganic Streaking in Sandy sted on Local Hydric Soils sted on National Hydric S ther (Explain in Remarks) different types of mottles.	y Soils s List soils List	er in San	dy Soi	ls		
		RMINATION		T							
	tic Vegetation										
	Hydrology Pre pils Present?	esent? X Yes X Yes		Is this Sam	oling Point Within a Wetland	? <u>X</u>	Yes _		No		
Remark				1							
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			2 **			_					
Pr	oject/Site: Yucca Mount	tain Rail Cor	ridor EIS	Sout	hern			Date:	06/2	22/2006	
	Portion of Ca		ent								
A .	plicant/Owner: Bechtel-				<u>-</u>		,	County:	Line	coln	
linv	restigator: PBS&J (RRM	1 & DB)						State:	Nev	ada	
Do	Normal Circumstances exis	st on the site:		X	Yes		No	Communi	ty ID:		
•	he site significantly disturbe		tuation)?		Yes	$\overline{X}$	No	Transect	-		
	he area a potential Problem				Yes	$\frac{\Lambda}{X}$	No	Plot ID:	D.	COW	1.4
1	If needed, explain on revers				103		140	FIOLID.		CCW-	14
VE	GETATION										
	Dominant Plant Species	Stratum	Indicator		T	Domir	ant Pl	ant Species		Stratum	Indicator
1	Juncus balticus	Н	FACW		9						
2	Agrostis stolonifera	Н	FACW		10			<del></del>			
3	Carex praegracilis	Н	FACW		11						
4	Typha latifolia	Н	OBL		12					<del></del>	
5	Scirpus acutus	Н	OBL		13						
6					14	-					
7 -					15	•					· · · · · · · · · · · · · · · · · · ·
8 -					16						<del></del>
Per	cent of Dominant Species th	at are OBL, F	ACW, or F	AC (e	exclud	ina FA	C-)	5/5 = 100	7%		
	narks:						- ,.		370		
Í	Turno.										
			***							-	
НҮІ	DROLOGY										
	Recorded Data (Des	cribe in Rema	ırks):		Wetla	nd Hyd	Irologi	y Indicators			
_		, Lake, or Tid			v v Gliai		-	y molcators dicators:	•		
		Photographs		ĺ			-	undated			•
	Other					<u> X</u>		aturated in I	Jpper	12 Inches	
_	X No Recorded Data A	vailable					_ w	ater Marks			
<b>—</b> · .				_			Dr	ift Lines			
Field	Observations:							ediment De			
	Depth of Surface Water:		(in )			C	Dr	ainage Pati	erns ir	n Wetland	s
	Sopuror Sanace Water.	-	(in.)			Secor		Indicators (			
	Depth to Free Water in Pit		(in.)				_	daized Hoo ater-Stained	t Chan d Leav	inels in Up es	oper 12 Inches
	Donath to Oct. 1 to 11		<del></del>	-				cal Soil Sur		ata	
	Depth to Saturated Soil:	0	(in.)	1		X	_ FA	C-Neutral 7	Γest		
							_ Otl	her (Explair	in Re	marks)	
Rem											
Soil i	s saturated to the surface.										į
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SOILS								<b></b>
, ,	nit Name	<del>-</del>	oam-strongly saline		Moderate	ely well d	Iraine	<u>d.</u> \
4 '	and Phase): my (Subgrou		Lanta	Field Observations Confirm Mapped Ty		Yes	X	No
			lems		he:		<u>^</u>	
	Description	1:		1	ا مساد			
Depth		Matrix Color	Mottle Colors	Mottle Abundance/Contrast		, Concreti	ions,	
inches	Horizon	(Munsell Moist)	(Munsell Moist	) Abundance/Contrast	Structur			
10	A	10YR 4/1			3	SILTY CL	.AY	
	<del> </del>				-			
ļ <u> </u>	3 9 1 - Back	-			<del>, ,,</del>			
Hyanc	Soil Indicat	tors: Histosol		Concretions				
		listic Epipedon		High Organic Content in s		er in San	dy So	ils
	<u>x</u> s	Sulfidic Odor	<del>-</del>	Organic Streaking in San	dy Soils		•	
		Aquic Moisture Regime	· –	Listed on Local Hydric So				i
		Reducing Conditions Gleyed or Low-Chroma	- Colors	Listed on National Hydric Other (Explain in Remark				
Remarks Saturated	s: d to surface.							
Jaturacou	I to surrace.							
						-		
WETLA	AND DETE	RMINATION						
Hydrophy	ytic Vegetation	on Present? X Ye	es No					
Wetland	Hydrology Pre	resent? X Ye	es No					
Hydric So	oils Present?	X Ye	es No Is ti	his Sampling Point Within a Wetlar	nd? X	_ Yes _		No
Remark	KS:							
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1								

	Project/Site:	Yucca Moun			Soutl	hern	_	-	Date:	06/2	23/2006	<del></del>
	A l' +/Q	Portion of Ca		ent								
	Applicant/Own								County:	Line	coln	
	nvestigator:	PBS&J (RRM	1 & DB)						State:	Nev	ada	
Ī	Do Normal Circ	cumstances exi	st on the site:		X	Yes	<del></del>	No	Communi	tv ID:		
1	s the site signi	ficantly disturbe	ed (Atypical S	ituation)?		Yes	$\overline{X}$	No	Transect	•		· · · · · · · · · · · · · · · · · · ·
1	s the area a po	otential Problem	Area?:	·		Yes	$\frac{1}{X}$	No	Plot ID:		CCW-1	5
	(If needed, e	xplain on rever	se.)								<u></u>	<u></u>
V	/EGETATIOI	N										
	Dominant P	lant Species	Stratum	Indicator		l	Domir	nant Pl	ant Species		Stratum	Indicator
1	Carex	praegracilis	Н	FACW		9						
2	Alopec	urus pratensis	Н	NI		10			<del></del>			
3	June	us balticus	Н	FACW		11						
4	Puccine	Ilia lemmonii	Н	FAC		12			· · · · · · · · · · · · · · · · · · ·			
5	<u> </u>					13						
6						14					-	
7						15						
8		·			_	16						<u> </u>
P	ercent of Dom	inant Species th	at are OBL,	FACW, or F	AC (e	exclud	ina FA	C-).	3/3= 100	0%		·
H	YDROLOGY				-,w	<b>3</b>						
	Reco	orded Data (Des		•		Wetla	nd Hyc	rolog	y Indicators	:		
			i, Lake, or Tic	de Gauge			Prima	ary Inc	dicators:			•
		Aerial I	Photographs				_		undated			
	X No R	ecorded Data A	vailable				_	_ Sa	aturated in t	Jpper	12 Inches	
			· · · · · · · · · · · · · · · · · · ·						ater Marks ift Lines			
Fie	eld Observatio	ns:			-				ediment Dep	annita		
								Dr	ainage Patt	erns ir	n Wetlands	•
	Depth of S	urface Water:		(in.)			Seco	ndary	Indicators (	2 or m	ore require	, ed):
	Depth to F	ree Water in Pit	:	(in.)				_ 0		t Chan	nels in Up	per 12 Inches
	Depth to S	aturated Soil:		— (in.)					cal Soil Sur .C-Neutral 1		ata	j
	,	·		("".)					her (Explair		marks)	
Re	marks:			····				<del>_</del>			/	
No	evidence of h	ydrology.										

Map Un	nit Name	Pe- Pahranaga	t silty clay loam	Drainage Class:	Poorly drained to somewhat poorly drained			
•	and Phase): my (Subgroup)	: Fluvaquentic e	ndoaqualls	Field Observations Confirm Mapped Ty	pe? Yes _X_ No			
Drofile	Docarintion							
Depth inches		Matrix Color Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
0-5	A	10YR 3/2			CLAY			
5-8	В	10YR 4/3			SILTY CLAY			
8-11	С	10YR 5/3			FINE SAND			
Remark	Sulfi Aqu Red Gley	osol ic Epipedon dic Odor ic Moisture Regime ucing Conditions red or Low-Chroma		Organic Streaking in Sand	ls List Soils List			
WETLA	AND DETERM	IINATION						
Wetland	ytic Vegetation P Hydrology Prese pils Present?		s X No	Sampling Point Within a Wetland	1? Yes X No			
Remark No evide		ydrology or hydric s	oils.					

Approved by HQUSACE 2/s

Project/Site: Yucca Mount	tain Rail Cor	rridor EIS S	Souther	n		Date:	06/2	3/2006	
Portion of Ca							30,2	5/2000	
Applicant/Owner: Bechtel-					-	County:	Line	oln	
Investigator: PBS&J (RRM	M & DB)				<b>-</b>	State:	Nev		· · · · · · · · · · · · · · · · · · ·
Do Normal Circumstances exi	st on the site:		ΧY		No	Commur	nity ID:		
Is the site significantly disturbe	ed (Atypical Si	ituation)?	Y	es X	- No	Transect	•	***************************************	
Is the area a potential Problem	n Area?:	•	Y	es X	_ No	Plot ID:		CCW-	16
(If needed, explain on revers	se.)	-			<del></del>				
VEGETATION									
Dominant Plant Species	Stratum	Indicator		Don	ninant P	lant Species	3	Stratum	Indicator
1 Hordeum jubatum	Н	FAC	_   ,	)		<del></del>			
2 Carex praegracilis	H	FACW	_   1	0			-	<del></del>	
3 Potentilla anserina	Н	OBL	_   1	1				·	
4 Juncus balticus	Н	FACW	_   1	2					
5 Anemopsis californica	Н	OBL	_   1	3					
6			_   1	4		··· ·· <u>·</u>			
7			_   1	5					
8			_   1	5					
Percent of Dominant Species the Remarks:	nat are OBL, i	HAGW, OF H	AC (exc	luding F	AC-).	5/5 = 10	00%		
Remarks:	mat are ODL, i	FAGW, OF F	AC (exc	luding F	FAC-).	5/5 = 10	00%		
Remarks:  HYDROLOGY				- J.J.					
Remarks:  HYDROLOGY  Recorded Data (Des	scribe in Rem	arks):		etland H	ydrolog	gy Indicator			
Remarks:  HYDROLOGY  Recorded Data (Des	scribe in Rem n, Lake, or Tid	arks):		etland H	ydrolog nary In	gy Indicator dicators:			
Remarks:  HYDROLOGY  Recorded Data (Des	scribe in Rem	arks):		etland H	ydrolog mary In	gy Indicator dicators: nundated	s:	12 Inches	
Remarks:  HYDROLOGY  Recorded Data (Des	scribe in Rem n, Lake, or Tic Photographs	arks):		etland H	ydrolog mary In X S	gy Indicator dicators:	s: Upper	12 Inches	
Remarks:  HYDROLOGY  Recorded Data (Des Stream Aerial Other	scribe in Rem n, Lake, or Tic Photographs	arks):		etland H	ydrolog nary In Ir X S	gy Indicator dicators: nundated saturated in	s: Upper	12 Inches	
Remarks:  HYDROLOGY  Recorded Data (Decoder of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the	scribe in Rem n, Lake, or Tic Photographs	arks):		etland H	ydrolog mary In Ir X S W D	gy Indicator dicators: nundated aturated in Vater Marks wrift Lines ediment De	s: Upper s		
HYDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A	scribe in Rem n, Lake, or Tic Photographs	arks): de Gauge		etland H Prir - - - -	ydrolog mary In Ir X S W D	gy Indicator dicators: nundated aturated in Vater Marks rift Lines ediment De rainage Pa	s: Upper s eposits tterns ii	n Wetland	İs
Remarks:  HYDROLOGY  Recorded Data (Decoder of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the	scribe in Rem n, Lake, or Tic Photographs	arks):		etland H Prir - - - -	ydrolog mary In X S W D S	gy Indicator dicators: nundated aturated in Vater Marks wrift Lines ediment De rainage Pa	s: Upper s eposits tterns in (2 or m	n Wetland nore requi	ls red):
HYDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A	scribe in Rem m, Lake, or Tid Photographs Available	arks): de Gauge (in.)		etland H Prir - - - -	ydrolog mary In X S W D S D condary	gy Indicator dicators: nundated aturated in Vater Marks rift Lines ediment De rainage Pa v Indicators exidized Ro	s: Upper s eposits tterns in (2 or m ot Char	n Wetland lore requi linels in U	İs
HYDROLOGY  Recorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded D	scribe in Rem m, Lake, or Tid Photographs Available	arks): de Gauge		etland H Prir - - - -	ydrolog mary In Ir X S W D S D condary	gy Indicator dicators: nundated aturated in Vater Marks wrift Lines ediment De rainage Pa v Indicators exidized Ro Vater-Staine	Upper seposits tterns in (2 or mot Char	n Wetland lore requi linels in U _l les	ls red):
HYDROLOGY  Recorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded Data (Decorded D	scribe in Rem m, Lake, or Tid Photographs Available	arks): de Gauge (in.)		etland H Prir - - - -	ydrolog mary In Ir X S W D Sondary	gy Indicator dicators: nundated aturated in Vater Marks rift Lines ediment De rainage Pa v Indicators exidized Ro	Upper seposits tterns in (2 or mot Chared Leavurvey D	n Wetland lore requi linels in U _l les	ls red):
HYDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pice	scribe in Rem m, Lake, or Tid Photographs Available	arks): de Gauge (in.)		etland H Prir - - - -	ydrolog mary In X S W D S D condary X O W Lo	gy Indicator dicators: nundated aturated in Vater Marks wrift Lines ediment De rainage Pa v Indicators exidized Ro Vater-Staine ocal Soil Sc	s: Upper s eposits tterns in (2 or m ot Char ed Leav urvey D Test	n Wetland nore requi nnels in U _l res ata	ls red):
HYDROLOGY  Recorded Data (Description Stream Aerial Other X No Recorded Data Aerial Depth of Surface Water:  Depth to Free Water in Pit Depth to Saturated Soil:	scribe in Rem m, Lake, or Tid Photographs Available	arks): de Gauge (in.)		etland H Prir - - - -	ydrolog mary In X S W D S D condary X O W Lo	gy Indicator dicators: nundated aturated in Vater Marks ediment De rainage Pa v Indicators vxidized Ro Vater-Staine ocal Soil Sta	s: Upper s eposits tterns in (2 or m ot Char ed Leav urvey D Test	n Wetland nore requi nnels in U _l res ata	ls red):
HYDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pice	scribe in Rem m, Lake, or Tio Photographs Available	arks): de Gauge (in.) (in.) (in.)		etland H Prir - - - -	ydrolog mary In X S W D S D condary X O W Lo	gy Indicator dicators: nundated aturated in Vater Marks ediment De rainage Pa v Indicators vxidized Ro Vater-Staine ocal Soil Sta	s: Upper s eposits tterns in (2 or m ot Char ed Leav urvey D Test	n Wetland nore requi nnels in U _l res ata	ls red):
HYDROLOGY  Recorded Data (Des Stream Aerial Other X No Recorded Data A Stream Depth of Surface Water:  Depth of Surface Water:  Depth to Free Water in Pit Depth to Saturated Soil:	scribe in Rem m, Lake, or Tio Photographs Available	arks): de Gauge (in.) (in.) (in.)		etland H Prir - - - -	ydrolog mary In X S W D S D condary X O W Lo	gy Indicator dicators: nundated aturated in Vater Marks ediment De rainage Pa v Indicators vxidized Ro Vater-Staine ocal Soil Sta	s: Upper s eposits tterns in (2 or m ot Char ed Leav urvey D Test	n Wetland nore requi nnels in U _l res ata	ls red):

SOILS		0.0			0			<del></del>	
Map Ui	nit Name	Gg-Geer sil	t loam-strongly	saline	Drainage Class:	Moderat	ely well	draine	d A
(Series	and Phase	): ·			Field Observations				
11 '	my (Subgro		rthents		Confirm Mapped Ty	pe?	Yes	X	No
Profile	Descriptio	n·					<del></del>		
Depth	Description	Matrix Color	Mottle Co	lors	Mottle	l Texture	, Concre	tions.	
inches	Horizon	(Munsell Moist)	(Munsell I		Abundance/Contrast	Structur		,	
0-4.5	¹ A	10YR 2/2					SILTY C	LAY	
4.5-10	В	10YR 4/1	5Y1	R 4/6	ABUNDANT, PROMINENT	,	SILTY C	LAY	
		<u> </u>				<u> </u>			
		`				ļ			
Hydric	Soil Indicat	:ors: listosol			Concretions				
		listic Epipedon			High Organic Content in s	urface Lav	er in Sar	ndv Sc	oils
	s	sulfidic Odor			Organic Streaking in Sanc	ly Soils		,	
		quic Moisture Regir leducing Conditions			Listed on Local Hydric Soi Listed on National Hydric				
		leading Conditions leyed or Low-Chror			Other (Explain in Remarks				1
Remark	s:		· · · · · · · · · · · · · · · · · · ·						_√`.
Soil is ve	ery moist.								
								. , ,	
WETLA	ND DETE	RMINATION		· · · · · · · · · · · · · · · · · · ·					
	rtic Vegetatio		es No						
	Hydrology Probils Present?		es No	lo this Ca	moling Point Within a Western	10	V		N.I =
	JIIS FI <del>U</del> SEN(?	X_ \	es No	is this Sar	mpling Point Within a Wetland	1? <u>X</u>	Yes -		No
Remark	is:								

Approved by HQUSACE 2/92



### DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

		2 .				,			
Project/Site: Yucca Mountain	Rail Corri	dor EIS So	outhern			Date:	06/2	23/2006	
Portion of Calien	te Segmen	t				00/2	2000		
Applicant/Owner: Bechtel-SAI						County:	Line	roln	
Investigator: PBS&J (RRM &	DB)			-		State:	Nev		<del></del>
								<u>uuu</u>	
Do Normal Circumstances exist or			X Yes		No	Commun	ity ID:		
Is the site significantly disturbed (A		ation)?	Yes	X	No	Transect	ID:		
Is the area a potential Problem Are	a?:		Yes	X	No	Plot ID:		CCW-	17
(If needed, explain on reverse.)									
VECETATION									
VEGETATION  Dominant Plant Species S	Stratum	Indicator	7	Domi	nant D	lant On a dina		<u> </u>	
1 Juneus balticus			-	Domi	nant P	lant Species		Stratum	Indicator
2 Carex nebrascensis	<u> </u>	FACW	- 9					··	
	H	OBL	_   10					<del></del>	
Agrostis stolonifera Potentilla anserina	H	FACW	-   11						
5	Н	OBL	.   12						
6			13						
7	· ··		. 14						
8			15						
Percent of Dominant Species that a			.   16						
Remarks:					<del></del>				
HYDROLOGY		- And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And - And		3. (JAK)	· · · · · · · · · · · · · · · · · · ·				
Recorded Data (Describ	e in Remarl	(s):	Wetla	and Hy	drolog	y Indicators	S:		
Stream, La	ke, or Tide	Gauge		Prim	ary Ind	dicators:			
Aerial Phot	ographs				In	undated			
Other	-1.1					aturated in	Upper	12 Inches	
X No Recorded Data Availa	abie					ater Marks			
Field Observations						rift Lines			
Field Observations:			İ		_ S	ediment De	posits		
Depth of Surface Water:	0-1.5	(in.)		Soco	Dl	rainage Pat	terns ii	n Wetland	S
		. ''''		_		Indicators			
Depth to Free Water in Pit:		(in.)			<u>`</u> w	ater-Staine	d Leav	ineis in Up es	per 12 Inches
		. ` ′				cal Soil Su			
Depth to Saturated Soil:	0	(in.)		7	F#	C-Neutral	Test	ala	
		· •	1			her (Explai		marks)	
Remarks:		<del></del>							
Sample point is located near a small	spring and	the soil is s	aturated	l/inund	ated in	that area	annra	vimataly 4	E' from
ample point.	عادين ۾ مدان		atorateu	, ii iui iu	ul <del>c</del> u II	ı ıılaı aled,	approx	Kirnalely 1	מווטווו כ
7									

SUILS									(T	
Map Ur	nit Name	Gg-Geer silt le	oam-strongly sa	lline	Drainage Class:	Moderately well drained				
(Series	and Phase):				Field Observations					
Taxono	my (Subgrou	p): Typic torriorth	nents		Confirm Mapped Type?			<u>X</u>	. No	
Profile	Description:							<del></del>		
Depth inches	; Horizon	Matrix Color (Munsell Moist)	Mottle Colo (Munsell Mo		Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.				
0-3.5	A	10YR 2/2					SILTY LO	MAC		
3.5-10	В	10YR 4/1	5YR 4	4/6	ABUNDANT, PROMINENT		SILTY C	LAY		
		·								
					·					
	Soil Indicato									
Remark Soil is m	His Su Aq Re X Gle	stosol stic Epipedon Ifidic Odor uic Moisture Regime ducing Conditions eyed or Low-Chroma		H O Li	oncretions igh Organic Content in s rganic Streaking in Sand sted on Local Hydric Soi sted on National Hydric ther (Explain in Remarks	dy Soils ils List Soils List	yer in Sai	ndy So	ils	
									·····	
WETLA	AND DETER	MINATION		ower and the second		·				
Wetland	ytic Vegetation Hydrology Presoils Present?		s No	Is this Sam	oling Point Within a Wetland	d? <u>X</u>	Yes		No	
Remark Small po		ling a small spring.								
<b>.</b>	-,6									
									•	

Project/Site: Yucca Mountain Rail Corridor EIS So	uthern	Date: 06/23/2006
Portion of Caliente Segment		
Applicant/Owner: Bechtel-SAIC		County: Lincoln
Investigator: PBS&J (RRM & DB)		State: Nevada
Do Normal Circumstances exist on the site:	7 V N	
Is the site significantly disturbed (Atypical Situation)?	Yes N	
Is the area a potential Problem Area?:	Yes X N	
(If needed, explain on reverse.)	Yes <u>X</u> N	o Plot ID: CCW-18
(if fleeded, explain on reverse.)		
VEGETATION		
Dominant Plant Species Stratum Indicator	Dominan	t Plant Species Stratum Indicator
1 Juneus balticus H FACW	9	Chalam madalor
2 Agrostis stolonifera H FACW	10	
3 Carex praegracilis H FACW	11	
4 Hordeum jubatum H FAC	12	1000
5	13	
6	14	
7	15	
8	16	
Description of Description of Control of the Land Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Contr		
Percent of Dominant Species that are OBL, FACW, or FAC	(excluding FAC-	). 4/4= 100%
Remarks:		
Wetland becomes wetter as move to the south, dominated	by bulrush and O	lney's threesquare.
HYDROLOGY		
Recorded Data (Describe in Remarks):	Wetland Hydro	logy Indicators:
Stream, Lake, or Tide Gauge		Indicators:
Aerial Photographs	x	Inundated
Other Other	X	Saturated in Upper 12 Inches
X No Recorded Data Available		Water Marks
		Drift Lines
Field Observations:		Sediment Deposits
Donath of Confess Water 0 0 0 11		Drainage Patterns in Wetlands
Depth of Surface Water: 0-2 (in.)	Seconda	ary Indicators (2 or more required):
Depth to Free Water in Pit: (in.)	<u>X</u>	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
Depth to Free Water in Pit: (in.)		Water-Stained Leaves
Depth to Saturated Soil: (in.)	<u></u>	Local Soil Survey Data FAC-Neutral Test
(III.)		
		Other (Explain in Remarks)
Remarks:		
Pockets of inundation, 0-2 inches deep in the vicinity (to the	e southwest). App	ears to be subirrigated.
7		

SOILS									
Map Un	it Name	Gg-Geer silt	loam-strongly s	saline	Drainage Class:	Moderat	ately well drained		
(Series	and Phase):				Field Observations				
Taxonor	my (Subgrou	up): Typic torrior	thents	Confirm Mapped Ty	/pe?	_ Yes	_X_	No	
Profile	Description	<u>ı:</u>					•		
Depth	9	Matrix Color	Mottle Col		Mottle	Texture, Concrest Structure, etc.			
inches	Horizon	(Munsell Moist)	(Munsell N		Abundance/Contrast COMMON,				<del></del>
0-4	A	10YR 4/1	3116	R 4/6	PROMINENT		SILTY C	LAY	
4-10	В	10YR 4/1	10YR 4/1 5YR 4/6		ABUNDANT, PROMINENT		SILTY C	LAY	
								_	
• • • • •	~ ** * 1								
Hydric 8	Soil Indicate Hi	ors: istosol		C	oncretions				
	Hi	istic Epipedon		Hi	gh Organic Content in s	urface Lay	er in Sa	ndy So	ils
		ulfidic Odor			rganic Streaking in Sand				1
		quic Moisture Regim educing Conditions	ie		sted on Local Hydric Soi sted on National Hydric				
		leyed or Low-Chrom	na Colors		ther (Explain in Remarks				· •
Remarks	<del></del>						<u></u>		
						<del></del>	<del></del>		
WETLA	ND DETER	RMINATION							
Hydrophy	tic Vegetation	n Present? X Y	'es No		<u> </u>				<del></del>
Wetland F	Hydrology Pre	esent? X Y	es No						
Hydric So	ils Present?	<u>X</u> Y	es No	Is this Samp	ling Point Within a Wetland	d? <u>X</u>	_ Yes _		No
Remark	s:			1					

Project/Site: Yucca Mountain Rail Corridor EIS S	outhern	Date: 06/24/2006
Portion of Caliente Segment		
Applicant/Owner: Bechtel-SAIC		County: Lincoln
Investigator: PBS&J (RRM & DB)		State: Nevada
		Ticvada
Do Normal Circumstances exist on the site:	X Yes	No Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes X	No Transect ID:
Is the area a potential Problem Area?:	Yes X	No Plot ID: CCW-19
(If needed, explain on reverse.)		<u> </u>
VEGETATION		
Dominant Plant Species Stratum Indicator	Domina	ant Plant Species Stratum Indicator
1 Juncus balticus H FACW	-   9	
2 Carex praegracilis H FACW	- l ₁₀	
3 Hordeum jubatum H FAC	-   11	
4 Distichlis spicata H FAC+	-   12	
5	13	
6	-   14	
7	15	
8	-   16 <del></del>	
Percent of Dominant Species that are OBL, FACW, or FA	-   '	
HYDROLOGY		
Recorded Data (Describe in Remarks):	Wetland Hydi	ology Indicators:
Stream, Lake, or Tide Gauge		ry Indicators:
Aerial Photographs		Inundated
Other		Saturated in Upper 12 Inches
X No Recorded Data Available	1	Water Marks
		Drift Lines
Field Observations:		Sediment Deposits
Donath of Confess Maken		_ Drainage Patterns in Wetlands
Depth of Surface Water: (in.)		dary Indicators (2 or more required):
Depth to Free Water in Bit:	<u>X</u>	Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: (in.)		Water-Stained Leaves
Depth to Saturated Soil: (in.)		_ Local Soil Survey Data
Depth to Saturated Soil: (in.)		FAC-Neutral Test
	_	Other (Explain in Remarks)
Remarks:		
No strong evidence of wetland hydrology.		

SOILS					/
Map Ur	nit Name	Pa –Pahranagat strongly saline	t silt loam, drained,	, Drainage Class:	Poorly to somewhat poorly drained
(Series	and Phase):	.*		Field Observations	
1 '	my (Subgrou		ndoaqualls	Confirm Mapped T	
Profile	Description	<u>ı:</u>			
Depth inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6.5	A	10YR 4/3	10YR 4/6	FEW, FAINT	SILTY CLAY
6.5-10	В	10YR 4/3			LOAMY FINE SAND
Remarks	H SI SI SI SI G	listosol listic Epipedon sulfidic Odor quic Moisture Regime leducing Conditions aleyed or Low-Chroma	Colors	Concretions High Organic Content in s Organic Streaking in Sand Listed on Local Hydric So Listed on National Hydric Other (Explain in Remark	oils List Soils List
Hemark	3.				
WETLA	ND DETE	RMINATION			
Wetland I	ytic Vegetation Hydrology Pre pils Present?		X No	s Sampling Point Within a Wetlan	nd? Yes <u>X</u> No
Remark	s:				

	1 2					,		
Project/Site: Yucca Mountain Rai	l Corridor EIS	Sout	hern	·····		Date:	06/24/2006	
Portion of Caliente S	egment	Sout	110111			Julio.	00/24/2000	
Applicant/Owner: Bechtel-SAIC		<del></del>				County:	Lincoln	<del></del>
Investigator: PBS&J (RRM & DB	)					State:		
						State.	Nevada	
Do Normal Circumstances exist on the		X	Yes		No	Commun	ity ID:	
Is the site significantly disturbed (Atypid	cal Situation)?		Yes	X	- No	Transect		
Is the area a potential Problem Area?:	ž	X	Yes		No	Plot ID:	CCW-20	
(If needed, explain on reverse.)	_			<del></del>	-		CCW-20	
VEGETATION								
VEGETATION  Dominant Plant Species Stratu			***************************************					
				Domi	nant Pl	ant Species	Stratum Indica	itor
Distictins spicata			9 _					
2 - II			10					
Puccinellia lemmonii H	FAC		11					
4			12					
5			13					<del></del>
6			14				·	
7			15					
8			16			·		<del></del> -
Percent of Dominant Species that are O	BL FACW or F	=AC (		na E/	\C\	2/2 100	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
		700 (0	- ACIUU	ing i z	10-).	3/3 = 100	)%	
Hemarks:								
HYDROLOGY							•	
Recorded Data (Describe in	•		Wetlar	nd Hy	drolog	y Indicators	· ·	
Stream, Lake, o						licators:		
Aerial Photogra	phs					undated		
Other					K Sa	aturated in t	Upper 12 Inches	
X No Recorded Data Available					W	ater Marks	• •	
		_			Dr	ift Lines		
Field Observations:					Se	diment De	oosits	
Depth of Surface Water	<i>"</i> .				Dr	ainage Pati	terns in Wetlands	
Depth of Surface Water:	(in.)						2 or more required):	
Denth to Free Water in Bit:	/! \			_>	XO	idized Roo	t Channels in Upper 12 Ir	nches
Depth to Free Water in Pit:	(in.)				Wa	ater-Stained	d Leaves	
Depth to Saturated Soil:	/: \					cal Soil Sur		
	(in.)					C-Neutral 7		
					_ Oth	ner (Explair	n in Remarks)	
Remarks:								
Evidence that soil saturation occurs earlie	er in the growing	g seas	on. S	alt cru	ıst.			
•								

SOILS								
Map Un	it Name	Gg-Geer silt lo	am-strongly s	saline	Drainage Class:	Moderatel	y well drai	ned
(0	and Dhass				Field Observations			
'	and Phase) my (Subgro		ents		Confirm Mapped Ty	pe?	Yes X	No
Taxono		Typic torriordi	CIICS					
	Description		Litania Oal		Lagania	Toyture (	Concretions	0
Depth inches	Horizon	Matrix Color (Munsell Moist)	Mottle Col (Munsell N		Mottle Abundance/Contrast	Structure		۵,
Inches		10YR 2/2	(Marioon A				Y CLAY LC	)AM
0-2	A	101 K 2/2			ADLINDANT			,, <u>,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, </u>
2-11	В	7.5YR 4/3	5YF	R 4/6	ABUNDANT, DISTINCT		LOAM	
2-11								-
			,					
							-	
								i
			_ L					
Hydric	Soil Indicat							
		listosol listic Epipedon			Concretions High Organic Content in s	urface Lave	r in Sandv	Soils
		Sulfidic Odor			Organic Streaking in Sand		, in canay	
	X	quic Moisture Regime			isted on Local Hydric Soi			(
		leducing Conditions Bleyed or Low-Chroma	Coloré		isted on National Hydric : Other (Explain in Remarks			( )
		eyed of Low-Offorma			other (Explain in Hemanic	<u>''</u>		
Remark Moist the		file. Aquic moisture regi	ime assumed					
Wioist till	oughout pro-	me. Aquie moisture regi	ano assamos.					
					and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s			
WETLA	AND DETE	RMINATION						
	ytic Vegetatio		s No			**************************************		
	Hydrology Pr							
Hydric S	oils Present?	X Ye	s No	Is this San	npling Point Within a Wetland	d? <u>X</u>	Yes	No
Remark	<u></u>			<u> </u>				
Problem	area where v	egetation and hydrology	parameters are	found to be	met, but field indicators of	hydric soils a	re lacking.	The pH
of the so	il (note domi	nance by saltgrass here)	may be high en	ough to inhi	bit the formation of redox fe	atures.		
								,

Approved by HQUSACE 2/92

**Appendix D**White River Valley Map and Photographs

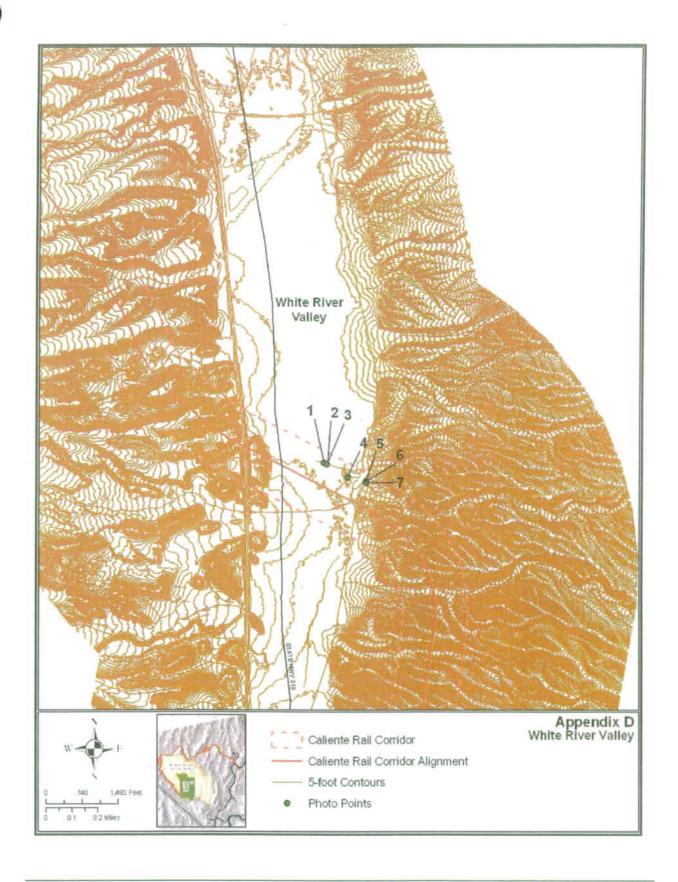




Photo 1. From Photo Point #1 looking east along man-made berm.



Photo 2. From Photo Point #2 looking north.



Photo 3. From Photo Point #3 looking south.



Photo 4. From Photo Point #4 looking west.



Photo 5. From Photo Point #4 looking south.



Photo 6. From Photo Point #5 looking north.

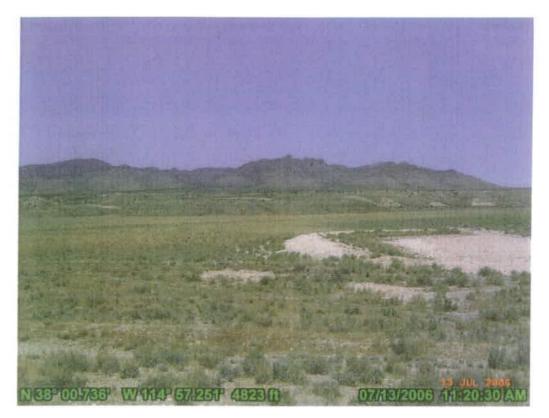


Photo 7. From Photo Point #6 looking west.



Photo 8. From Photo Point #7 looking southwest.

**Appendix E**Data Collection Fields

#### Waters of the U.S. Determination

#### Main Page tab:

- Waters of the U.S.
- Project / Site
- County
- State

- Collector
- Company

Type

Stratum

Indicator

Unit Name

Is the Site Significantly Disturbed (Atypical Situation)

#### **Dominant Plant Species**

- Common Name
- Scientific Name
- Location
- Density (% Cover)
- Photo ID
- Geomorphology tab:

#### Flow Type

- Channelized
- Sheet Flow
- Debris Flow

#### Stream Type

- Discontinuous
- Ephemeral
- Alluvial Fan

- AnastomosingSingle Thread Channel
- Multi Threaded Channel

#### **OHWM** Indicators

- Bed / Bank
- Bed Width (in.)
- OHWM Depth (in.)

**PBS** 

#### **Wetlands Determination**

#### Vegetation tab:

- Project / Site
- Do normal Circumstances Exist on the Site?
- Is the Site Significantly Disturbed (Atypical)?
- Area?

Is the Area a Potential Problem

- Collector
- Company
- Unit Name

- Dominant Plant Species
- Scientific Name / Common Name
- Stratum
- Indicator
- Percent of Dominant Species (OBL, FACW, or FAC)

#### Hydrology tab:

- Recorded Data Available (Describe in Remarks)
- Stream, Lake, or Tide Gauge
- Aerial Photographs
- Other

- Depth of Surface Water
- Depth to Free Water in Pit
- Depth to Saturated Soil

#### **Primary Indicators:**

- Inundated
- Saturated in Upper 12 inches
- Water Marks

- - Sediment Deposits

**Drift Lines** 

Drainage Patterns in Wetlands

#### Secondary Indicators (2 or more required):

- Oxidized Root Channels in Upper 12'
- Water Stained Leaves
- Local Soil Survey Data

#### Soils tab:

- Map Unit Name (Series and Phrase)
- Taxonomy (Subgroup)
- **Drainage Class**

- FAC Neutral Test
- Other (Explain in Remarks)

#### Profile Description

- Depth (in.)
- Horizon
- Matrix Colors (Munsell Moist)
- Mottle Abundance / Contrast
- Texture, Concretions, Structure, etc.

Field Observations / Confirm Mapped Type

#### Hydric Soil Indicators

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Reducing Conditions
- Gleyed or Low-Chroma Colors
- Concretions
- Aquic Moisture Regime
- High Organic Content in Surface Layer
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils
- Listed on National Hydric Soils
- Other (Explain in Remarks)

#### **WETLANDS DETERMINATION**

- Hydrophytic Vegetation Present
- Wetland Hydrology Present
- Hydric Soils Present
- Is this Sampling Point within a Wetland

#### Photos tab:

• Photo ID

#### OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT 1. QA: N/A **SPECIAL INSTRUCTION SHEET** Page 1 of 1 This is a placeholder page for records that cannot be scanned. 2. Record Date 3. Accession Number 11/13/06 ATTN to: ENG.20070614.0004 4. Author Name(s) 5. Authorization Organization N/A Parsons Brinckerhoff 6. Title/Description Waters of the U.S. Jurisdictional Determination Report for Yucca Mountain Project - Caliente Rail Corridor, GIS Data, Map **Documents and Pictures** 7. Document Number(s) 8. Version Designator V0-A000-NHC4-00207-00002-001 009 10. Medium 9. Document Type Media 2 DVD's 11. Access Control Code N/A 12. Traceability Designator V0-A000-NHC4-00207-00002-001-009 13. Comments DVD's: 1 Original & 1 copy Validation of complete file transferred. All files copied. Software used: ArcGIS 9.2, Corel PHOTO-PAINT 8.0 Image, PDF, Word

14. RPC Electronic Media Verification

**XREF** 

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THIS IS AN ELECTRONIC ATTACHMENT

JUN 26 2007

MD5 Validation Vera L. Books

BSC-BS

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 volume in drive D is WOUS_Rev03_13Nov06
 Volume Serial Number is C677-5C90
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